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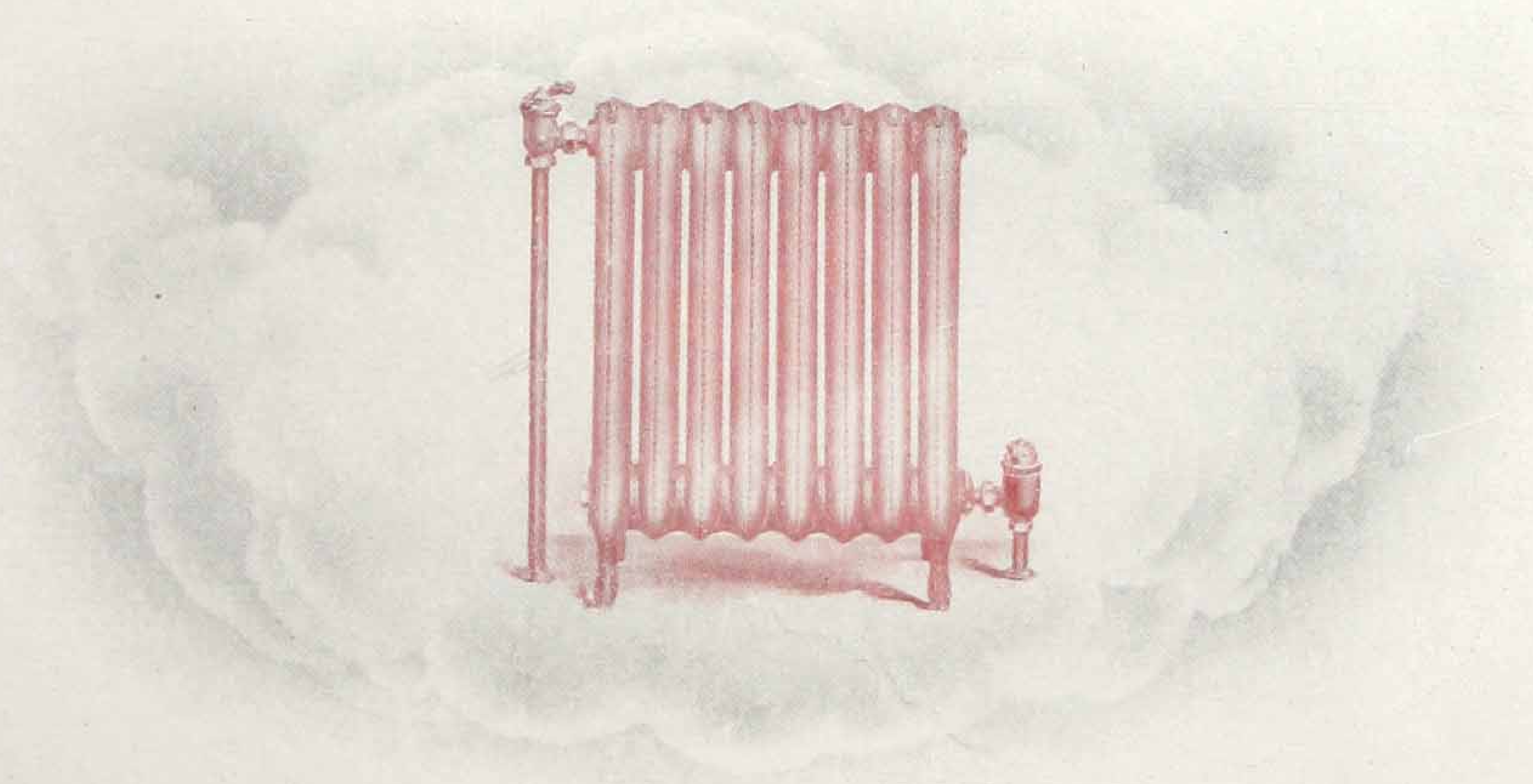
The Webster
MODULATION SYSTEM

THE MODERN METHOD
OF
STEAM HEATING



WARREN WEBSTER & COMPANY
CAMDEN, N. J.
ESTABLISHED 1888 INCORPORATED 1895

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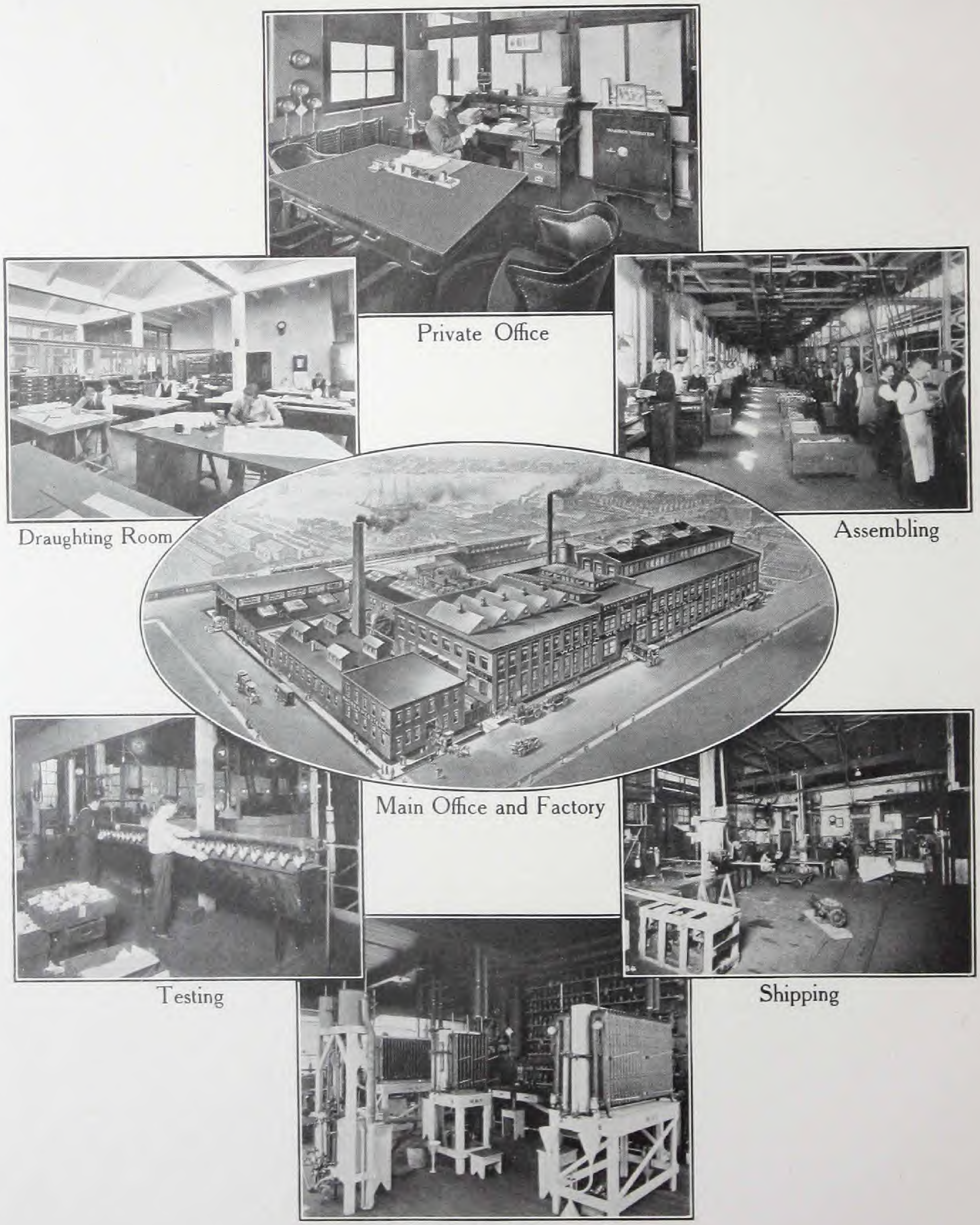
THE WEBSTER MODULATION SYSTEM



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VIEWS AT THE MAIN OFFICE AND FACTORY OF WARREN WEBSTER & CO., CAMDEN, N. J.

THE WEBSTER ORGANIZATION

THE service rendered architects, engineers, contractors and owners in connection with the installation of The Webster Modulation System of Steam Heating is made possible by our very complete organization. During the twenty-seven years of our business existence men have been trained in our particular line and have been located in the larger cities of the United States and Canada, so that to-day we are in position to give expert and prompt attention, not only to inquiries, but to actual installations as well.

WARREN WEBSTER & CO.

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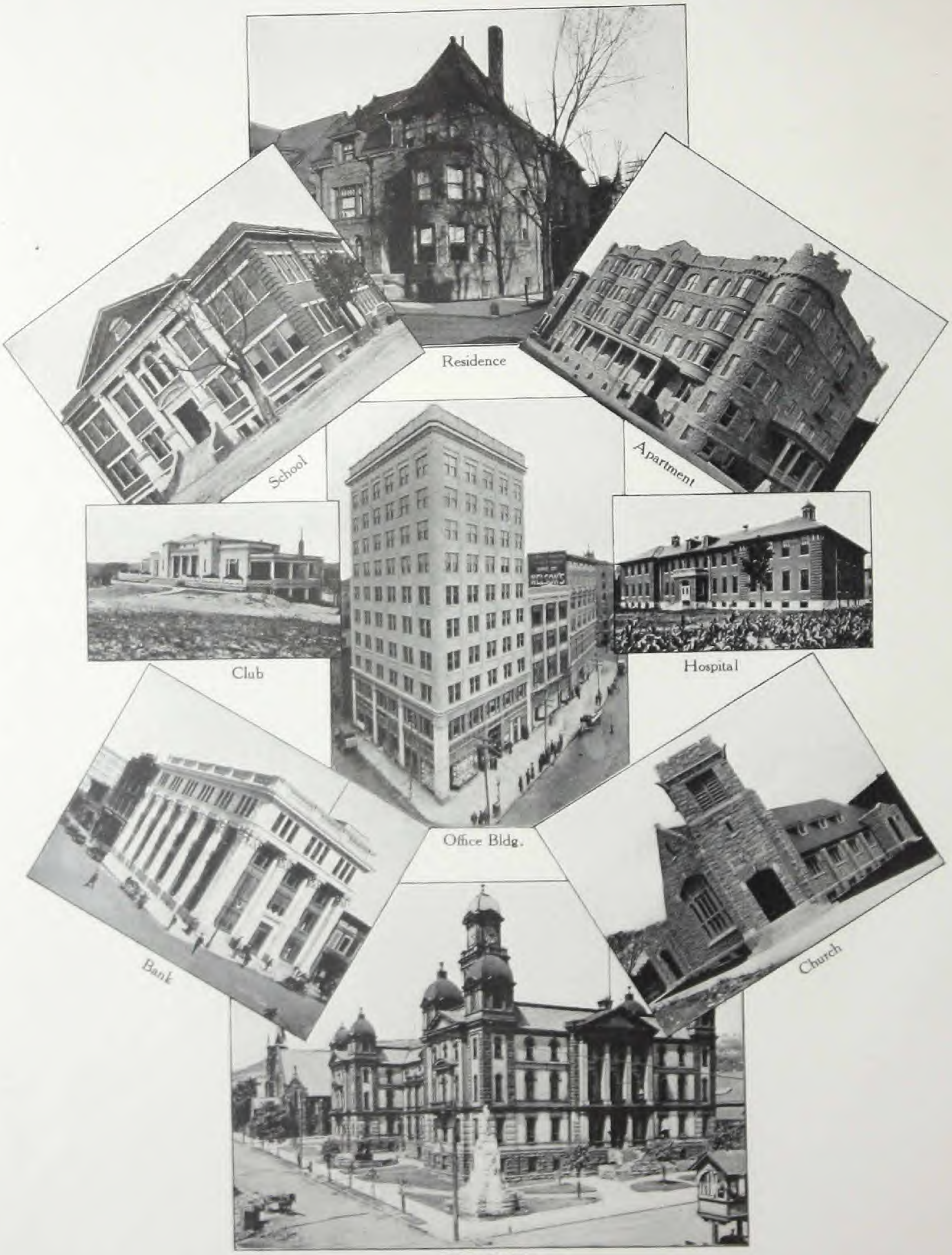
THE WEBSTER MODULATION SYSTEM


Residence

School

Apartment

Club

Hospital

Office Bldg.

Bank

Church

Public Building

A FEW OF THE VARIOUS TYPES OF BUILDINGS HEATED BY THE WEBSTER MODULATION SYSTEM OF STEAM HEATING

INTRODUCTORY

THE method of heating buildings has been developed step by step from the inefficient, fuel-wasting fireplace of our forefathers to the modern method of steam heating. The wood stove and the base burner were followed by the hot air furnace, the faults of which are well known. It has been only within the last decade that the scientific method of handling steam has proven its superiority over hot water so commonly used in heating a few years ago.

Steam heating apparatus as applied by contractors of the old school embodied features that were most objectionable; slow circulation, cracking and pounding in the pipes, nauseating odors from air valves and lack of heat in the proper quantity when and where it was wanted, have all been overcome by the modern method of steam heating.

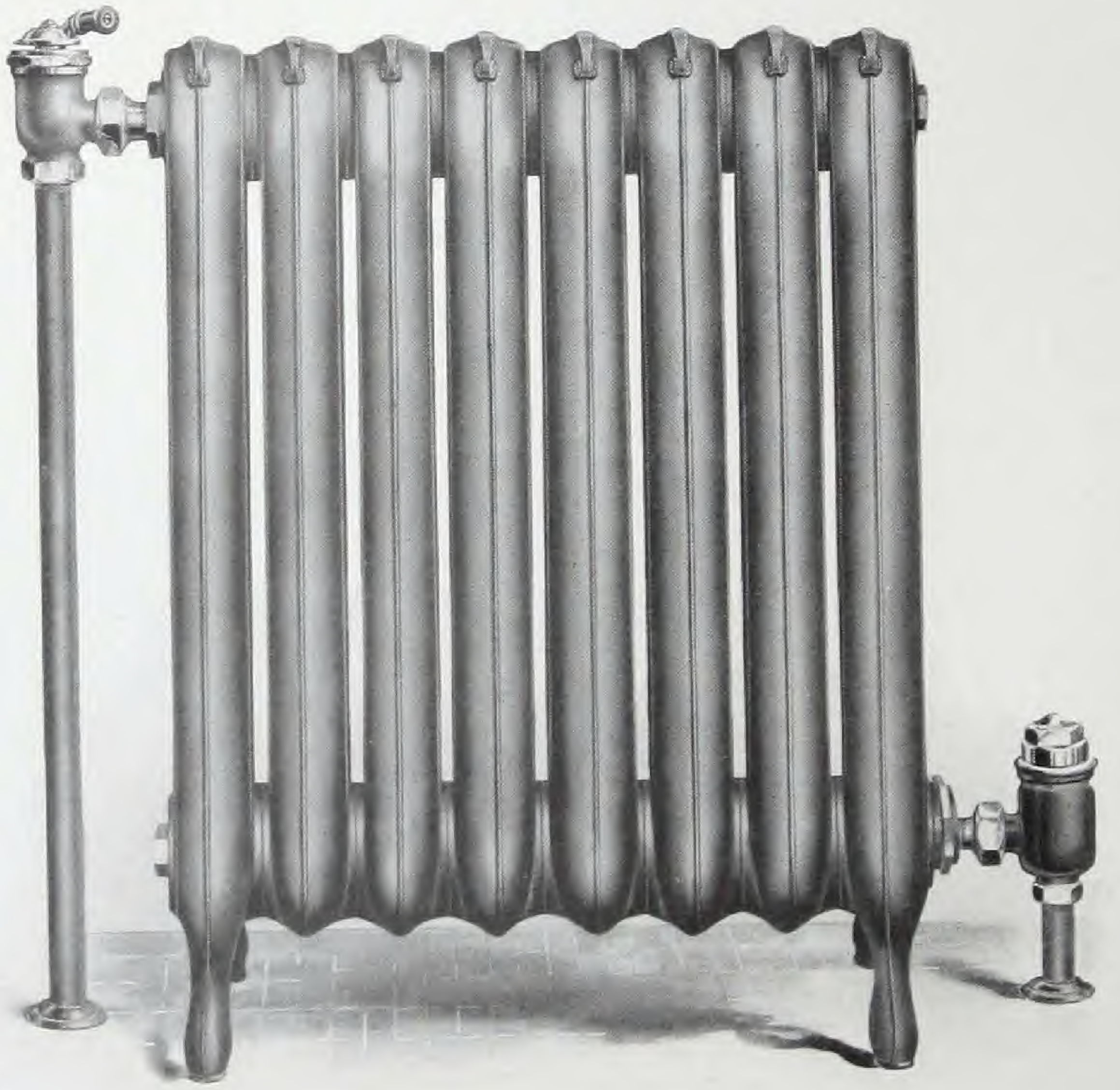
The Webster Modulation System of Steam Heating has been developed to a high state of perfection, and the following pages contain a description of The Webster Appliances which, when properly installed, accomplish all the desired results.

Our twenty-seven years' experience in low-pressure steam heating, our unequaled facilities in organization and manufacturing, and the standing which we have attained in this field, are sufficient guarantees of the success of The Webster Modulation System. With hundreds of installations in all types of buildings and the many satisfied users to whom we can refer, the evidence of its superior merit should be most convincing.

We cordially invite correspondence and shall be pleased to explain The Webster Modulation System more thoroughly, co-operating with Architects, Engineers and Contractors in the design and application of this simple, easily-operated, quick-acting, thoroughly successful and economical low-pressure steam-heating system.

WARREN WEBSTER & CO.

THE WEBSTER MODULATION SYSTEM



A RADIATOR EQUIPPED WITH THE WEBSTER MODULATION VALVE
AND THE WEBSTER SYLPHON TRAP AS PART OF
THE WEBSTER MODULATION SYSTEM

THE WEBSTER MODULATION SYSTEM

THE Webster Modulation System is a method of circulating steam at low pressure; the steam being taken direct from the boiler into the heating mains and the water of condensation returned to the boiler without mechanical means.

The Webster Modulation System is the result of the experience and knowledge we have gained by twenty-seven years' connection with the science of heating, during which time we developed The Webster Vacuum System to its present high state of perfection.

The Webster Modulation System, consisting of devices especially manufactured for the purpose together with their proper application, insures a perfect distribution of steam and permits the control or modulation of the temperature within each room or apartment according to the desire of the occupant.

When The Webster Modulation System is installed and operated according to our instructions, the fuel consumption is often from 20 per cent. to 40 per cent. less than with other methods.

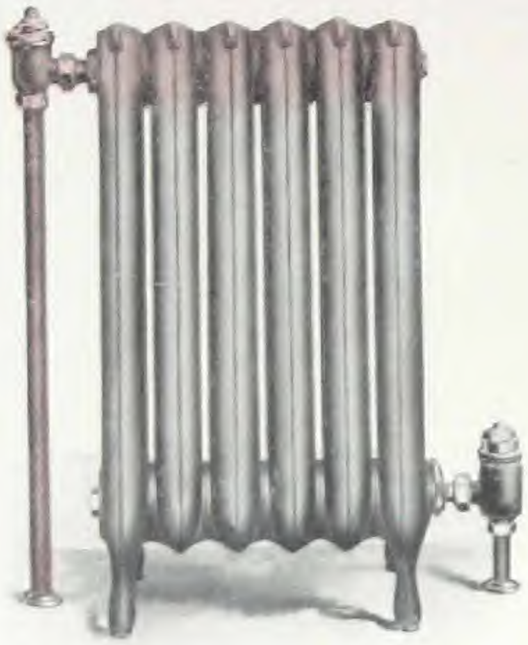
The advantages claimed for the hot water method of heating are all equaled or surpassed in The Webster Modulation System of Steam Heating. The evaporation into steam of a comparatively small amount of water requires less time for heat to reach all parts of the system and the fuel consumption must of necessity be less than that required to heat a larger body of water.

The quick response in The Webster Modulation System is one of the features which appeals strongly to the user, for those who have had experience with hot water heating know the length of time required to establish a circulation by the heating of the great quantity of water contained in the boiler, radiators and piping.

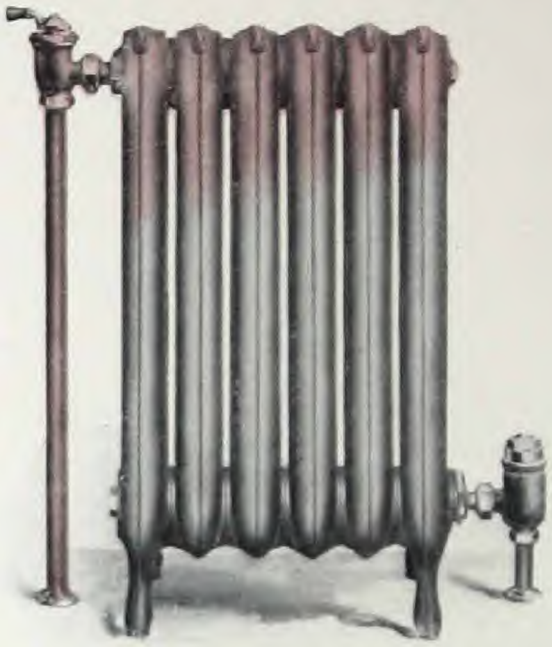
With hot water heating the control of varying amounts of heat emitted from a radiator is very uncertain; even when the circulation is checked, the radiator continues to emit heat long after the supply valve has been closed.

With such a system there is a tendency to open the windows without closing the radiator valve; the result of this being an excessive consumption of fuel.

With The Webster Modulation System, it is possible to control the amount of steam admitted into the radiator by moving the handle less than a



THE MODULATION VALVE ABOUT
ONE-FOURTH OPEN



THE MODULATION VALVE ABOUT
ONE-HALF OPEN

ILLUSTRATING THE PORTION OF RADIATOR HEATED WHEN THE MODULATION VALVE IS OPEN FOR THE ADMISSION OF DIFFERENT QUANTITIES OF STEAM

full turn around the dial of The Webster Modulation Valve. This admits a greater or less amount of steam from the supply pipe into the radiator and by such operation, the temperature within the room may be varied to suit the occupant.

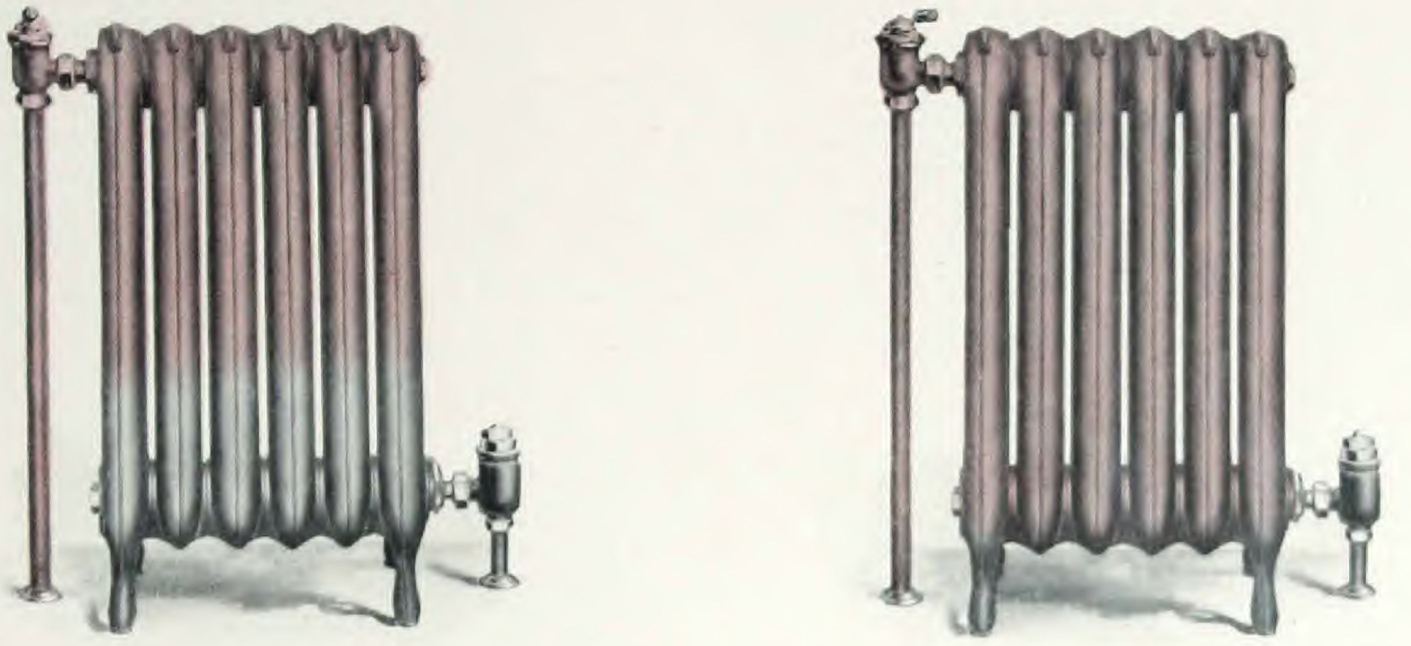
In mild weather only a small portion of the radiator need be heated, but more or less heat may be quickly secured to meet any changes in atmospheric conditions.

When the occupant of one room desires a higher temperature than does his neighbor, the temperature in each room may be modulated to suit individual requirements without affecting the operation of any other part of the system.

The illustrations on this and the opposite page show how a radiator may be heated wholly, or in part, by the simple manipulation of The Webster Modulation Valve. It will be appreciated that the portion of the radiator heated will vary according to the difference between the outside temperature and the temperature desired within the room, and for that reason the heated portions of the radiators, as indicated by the tinted section of each illustration, is subject to slight variation.

The Webster Water and Air Relief Trap used at the return end of the radiator is automatic, adjusted at the factory and needs no manipulation; the one valve on the supply, *i. e.*, The Webster Modulation Valve, is the only one to manipulate.

THE MODERN METHOD OF STEAM HEATING



THE MODULATION VALVE ABOUT THREE-FOURTHS OPEN

THE MODULATION VALVE FULL OPEN

ILLUSTRATING THE PORTION OF RADIATOR HEATED WHEN THE MODULATION VALVE IS OPEN FOR THE ADMISSION OF DIFFERENT QUANTITIES OF STEAM

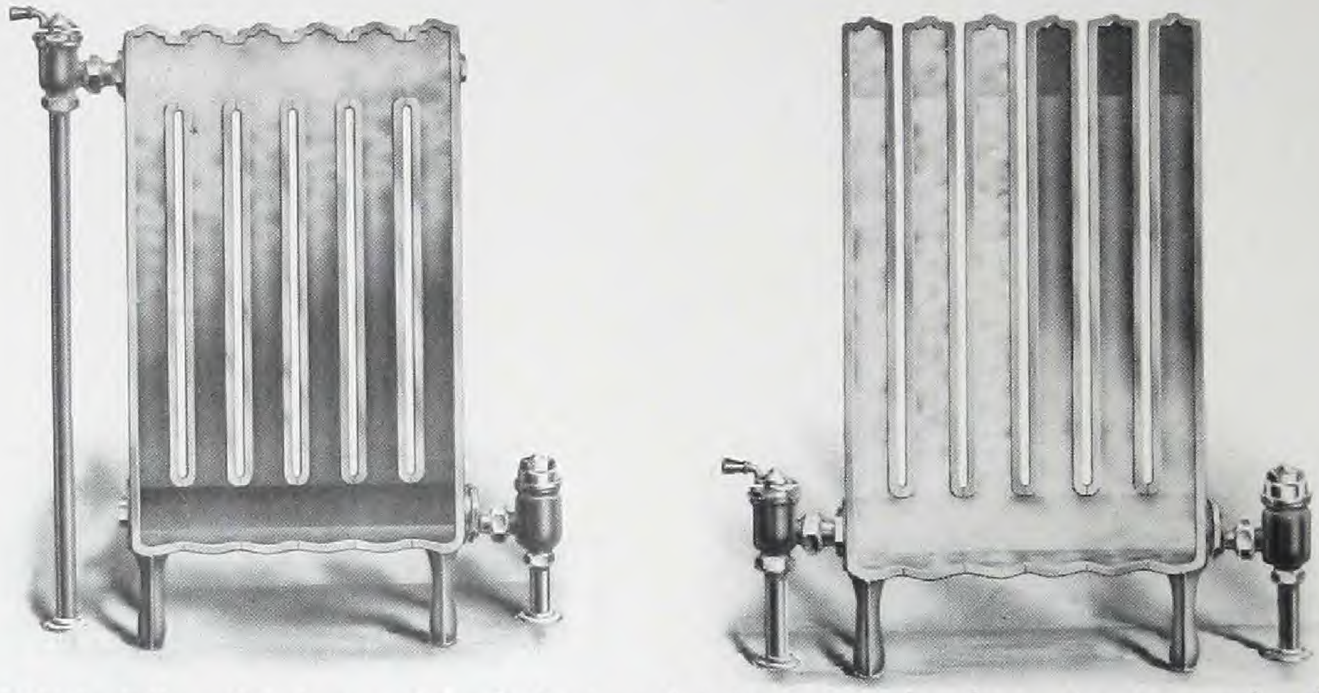
The radiators illustrated herein are all of the hot water type, *i. e.*, with connections from section to section at both top and bottom. This type of radiator is preferred for use with The Webster Modulation System because of the manner in which steam circulates across the top, and thence downward; the air and water of condensation, being heavier, fall to the bottom in advance of the steam and give full efficiency to that part of the radiator to be heated. (See illustrations on page 12.)

While it is desirable to use the hot water type of radiator, it should be understood that this is not positively necessary. The steam type of radiator can be used with success, connecting both supply and return at the bottom, although the quick response of the radiator when steam is turned on full is less certain and the control valve is not so accessible in the latter case as in the former.

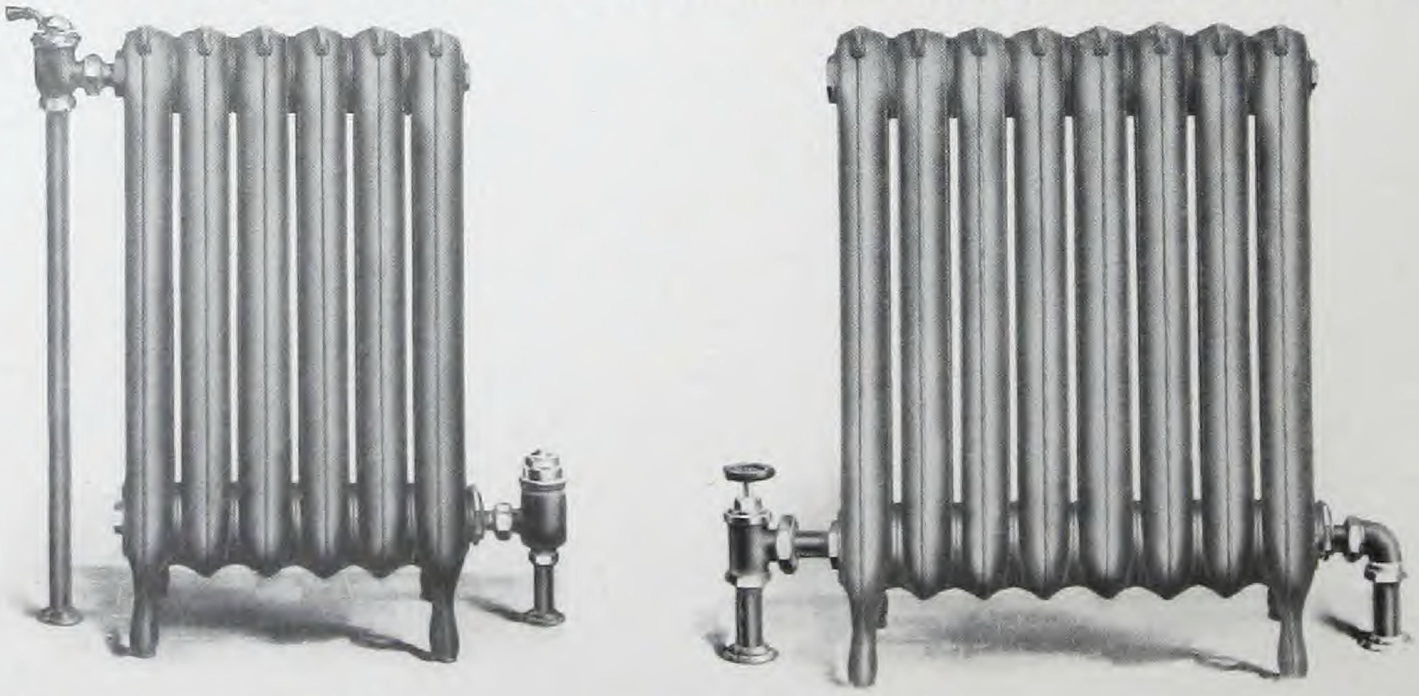
When the full efficiency of the radiator is necessary, The Webster Water and Air Relief Trap closes automatically and prevents steam leakage into the return, at the same time being sensitive enough to open to permit the passage of air and water.

We do not install apparatus, but furnish to the heating contractor such special appliances as are necessary for each installation; assist him in laying out the piping; make inspection during the progress of the work and guarantee as to efficiency; all for a contract price.

THE WEBSTER MODULATION SYSTEM



With The Webster Modulation Valve attached to the top of a hot water type radiator the flow of steam would be as shown in illustration above to the left, while, with a steam type radiator with The Webster Modulation Valve attached at the bottom, as shown to the right, the trap would close before all air had been removed. Although this air would eventually find its way out through the radiator trap, a longer time would be required to secure full efficiency of the radiator in the latter arrangement than in the former.



Owing to the difference in temperatures between steam and hot water, as commonly used in heating, the radiators used with the latter method must be of larger size. This is clearly illustrated above; the one to the left shows a hot water radiator used for steam in connection with The Webster Modulation System, while that to the right is the size required for the same service where hot water heating is employed. Floor space occupied and cost of installation favor The Webster Modulation System.

ECONOMY

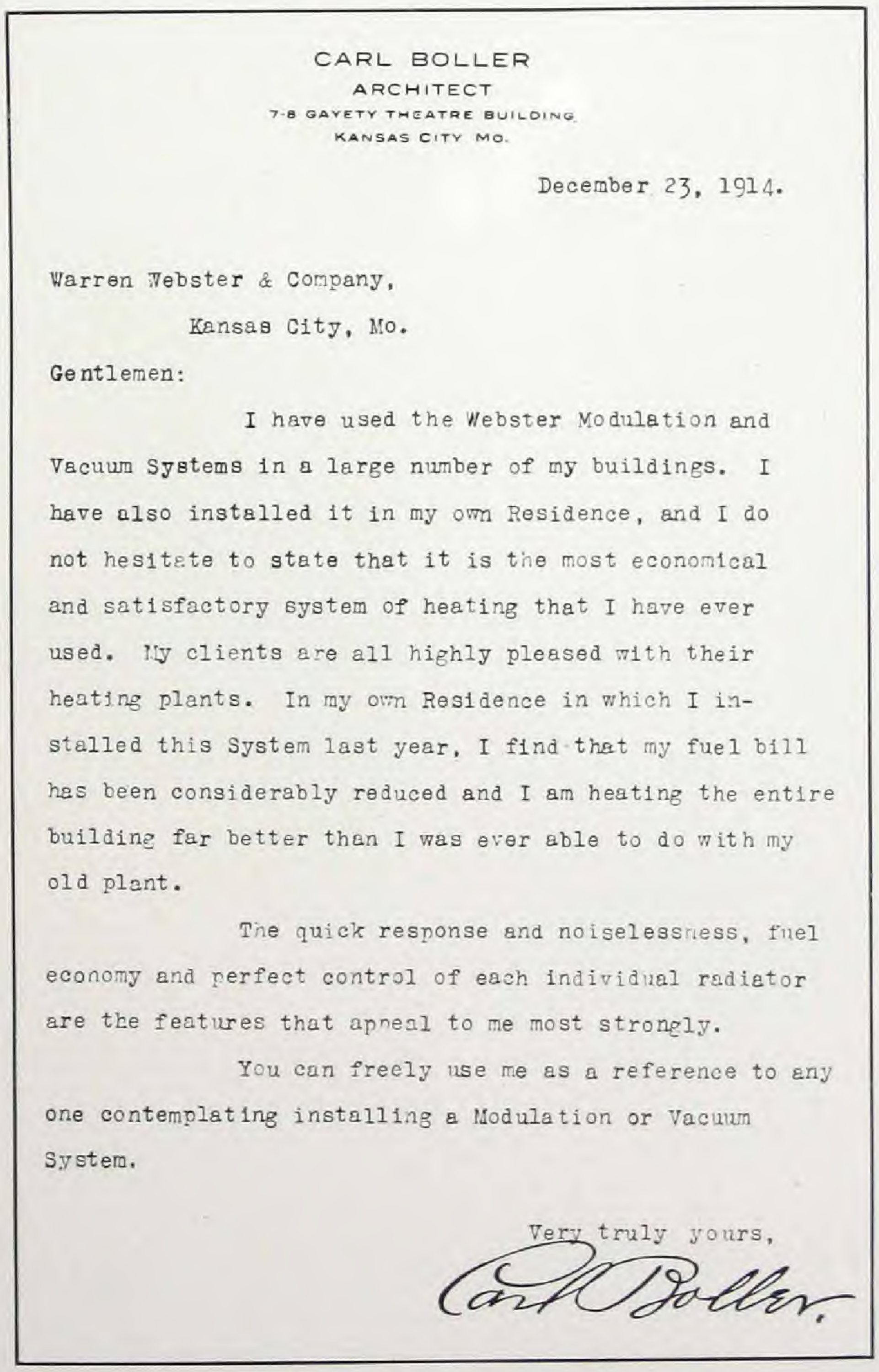
THE economy of any system of heating must be measured by its ability, in ordinary use, to produce similar heating effect with a minimum of waste. It is manifestly wrong to compare the fuel consumption of two systems when, with one, the rooms are indifferently or occasionally heated while, with the other, efficient and continuous service is secured.

In the ordinary heating system, the use of an excessive amount of fuel is generally due to overheating, caused by the inability to control the volume of heat given off by the radiator to suit individual requirements.

Under such conditions the occupant of the room seeks relief from the overheating by opening the windows, thus entailing an increased steam consumption without useful effect.

With The Webster Modulation System a choice is given between economical and wasteful methods of controlling the temperature, the proper method being more often selected. *It is easier and more convenient to manipulate The Webster Modulation Valve than to open and close windows.*

The minor wastes incident to the earlier methods of heating have been eliminated in The Webster Modulation System of Steam Heating; the total heat in the steam, above return water temperature being used.



CARL BOLLER
ARCHITECT
7-8 GAYETY THEATRE BUILDING
KANSAS CITY MO.

December 23, 1914.

Warren Webster & Company,
Kansas City, Mo.

Gentlemen:

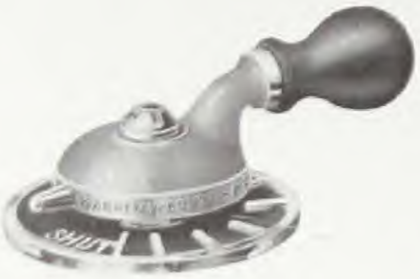
I have used the Webster Modulation and Vacuum Systems in a large number of my buildings. I have also installed it in my own Residence, and I do not hesitate to state that it is the most economical and satisfactory system of heating that I have ever used. My clients are all highly pleased with their heating plants. In my own Residence in which I installed this System last year, I find that my fuel bill has been considerably reduced and I am heating the entire building far better than I was ever able to do with my old plant.

The quick response and noiselessness, fuel economy and perfect control of each individual radiator are the features that appeal to me most strongly.

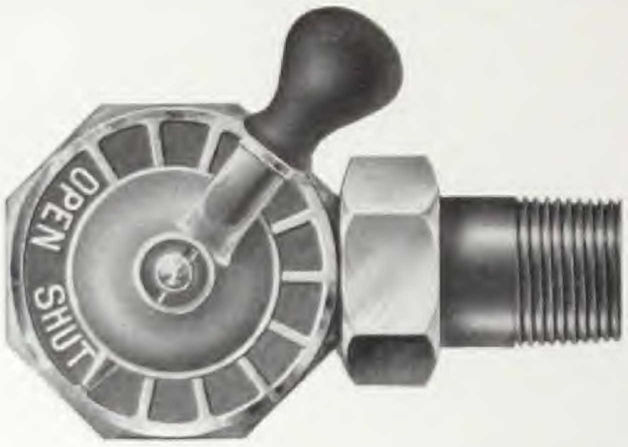
You can freely use me as a reference to any one contemplating installing a Modulation or Vacuum System.

Very truly yours,
Carl Boller.

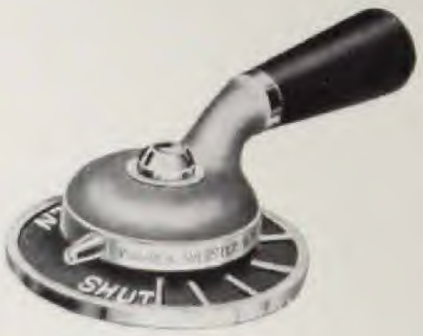
THE WEBSTER MODULATION SYSTEM



TYPE 10



TOP VIEW



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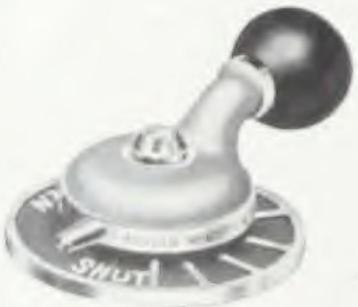
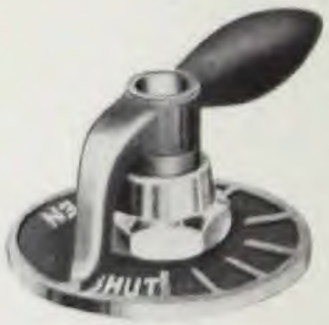
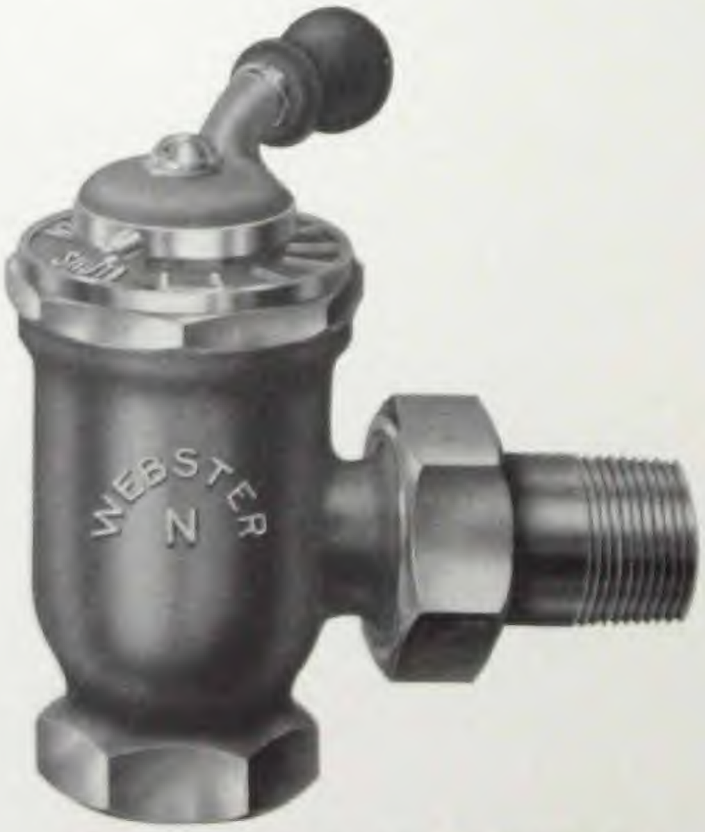


TYPE 4



TYPE 8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WEBSTER
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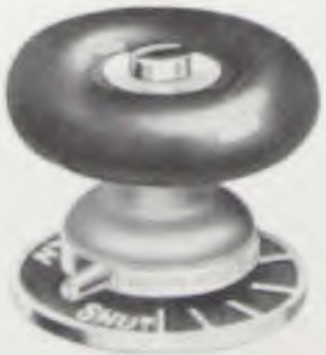
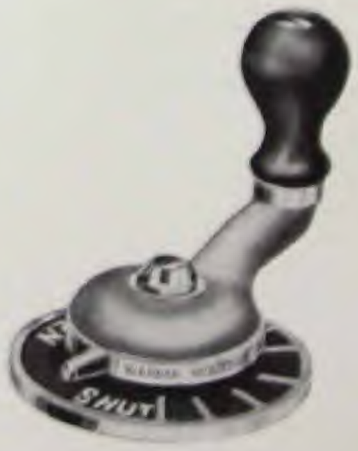
THE WEBSTER MODULATION VALVE



TYPE 7



TYPE 1

THE WEBSTER MODULATION VALVE AND VARIOUS TYPES OF HANDLES

THE WEBSTER MODULATION VALVE

THE valve commonly used on the supply connections to radiators in steam heating systems, and with which most people are familiar, is of such construction, that it is necessary to turn the handle many times in order to open or close it to allow or check the passage of steam from the supply piping to the radiator. The valve is usually so located that its manipulation is the cause of much inconvenience and discomfort.

The Webster Modulation Valve illustrated on the opposite page, and which forms one of the important features of The Webster Modulation System, is usually applied to the top connection of the radiator, thus being easy of access, while its construction is such that it may be entirely opened or closed with less than a full turn of the handle around the dial.

We are all so accustomed to controlling the quantity of water coming from the faucet, or turning up or down the gas by a slight movement of the hand, that it is most natural to follow the same procedure in the attempt to control the amount of steam admitted to a radiator. The Webster Modulation Valve permits similar control with no greater effort. A sufficient quantity of steam according to each individual desire is at the command of age or youth, whether the demand be either for excessive heat or in moderation.

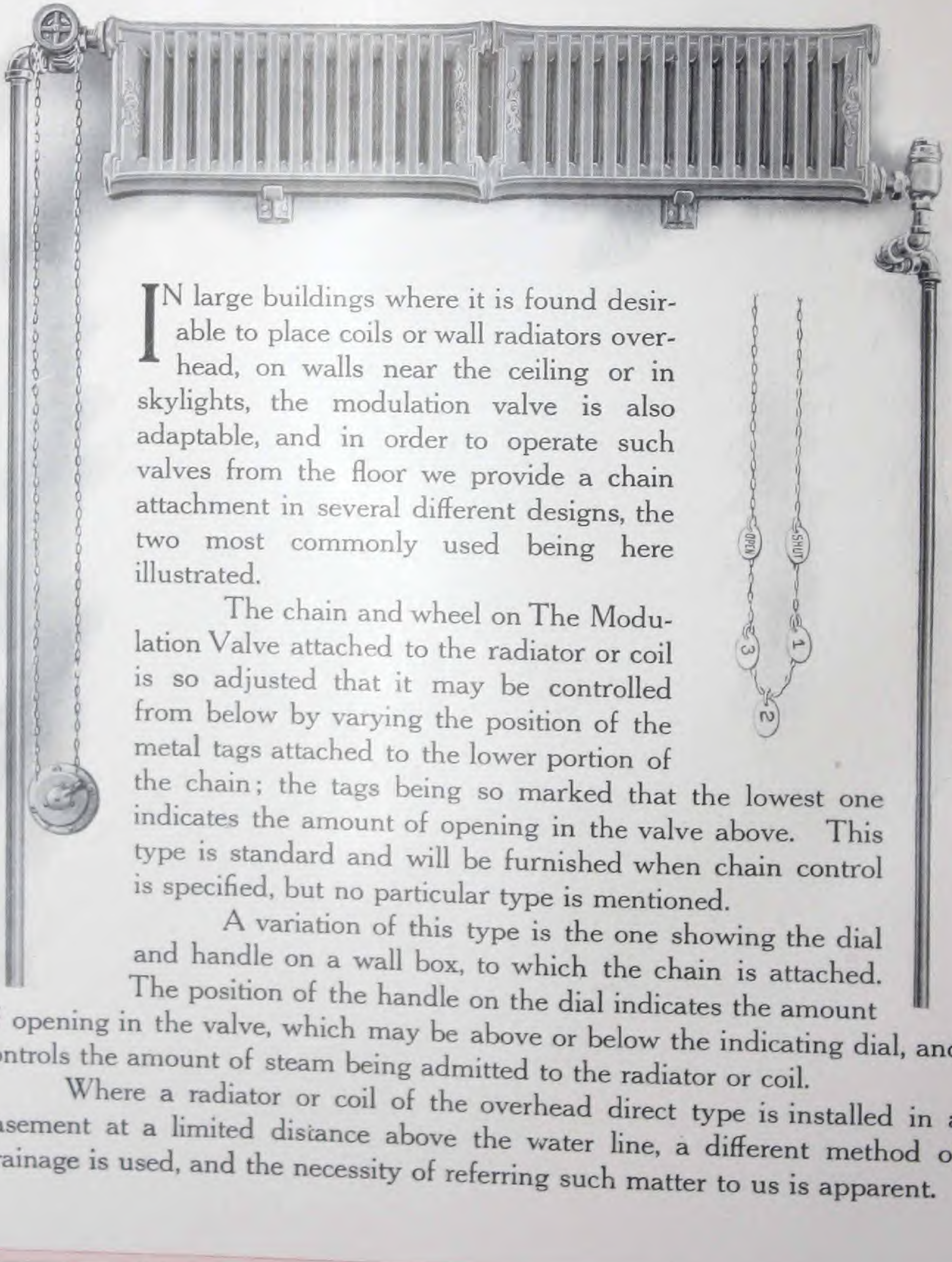
During the development of The Webster Modulation System we found there were many different opinions as to the most desirable form of handle, and, although type 10 is our standard, we are prepared to furnish any of the other types shown.

Type 8 is of lock shield construction, especially desirable in public buildings or institutions where it is thought best to keep the apparatus wholly under the control of some one person.

Unless specifications state specifically that dials and handles are to be of a finish to match hardware, our quotations will be based upon standard finish, *i. e.,* with polished trimmings, nickel plated all over.

In plants equipped with The Webster Vacuum System of Steam Heating, The Webster Modulation Valve, in all of its forms and attachments, is equally adaptable.

THE WEBSTER MODULATION VALVE WITH CHAIN ATTACHMENT



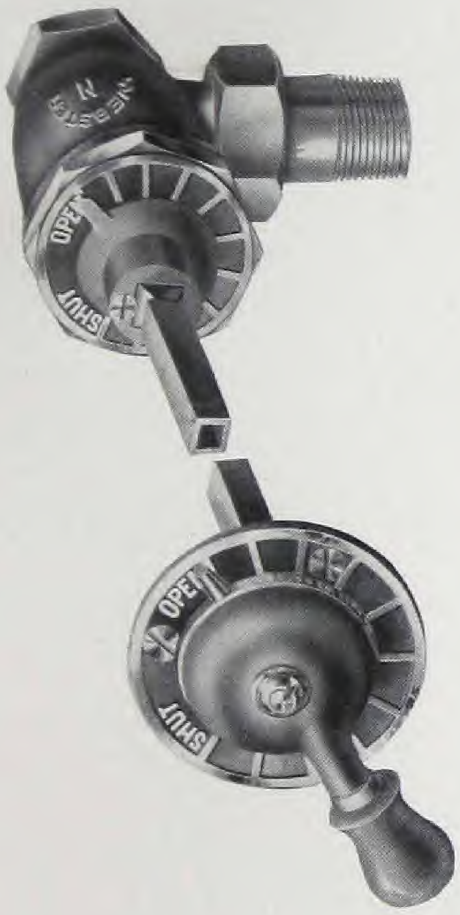
IN large buildings where it is found desirable to place coils or wall radiators overhead, on walls near the ceiling or in skylights, the modulation valve is also adaptable, and in order to operate such valves from the floor we provide a chain attachment in several different designs, the two most commonly used being here illustrated.

The chain and wheel on The Modulation Valve attached to the radiator or coil is so adjusted that it may be controlled from below by varying the position of the metal tags attached to the lower portion of the chain; the tags being so marked that the lowest one indicates the amount of opening in the valve above. This type is standard and will be furnished when chain control is specified, but no particular type is mentioned.

A variation of this type is the one showing the dial and handle on a wall box, to which the chain is attached. The position of the handle on the dial indicates the amount of opening in the valve, which may be above or below the indicating dial, and controls the amount of steam being admitted to the radiator or coil.

Where a radiator or coil of the overhead direct type is installed in a basement at a limited distance above the water line, a different method of drainage is used, and the necessity of referring such matter to us is apparent.

THE WEBSTER MODULATION VALVE WITH EXTENDED STEM ATTACHMENT

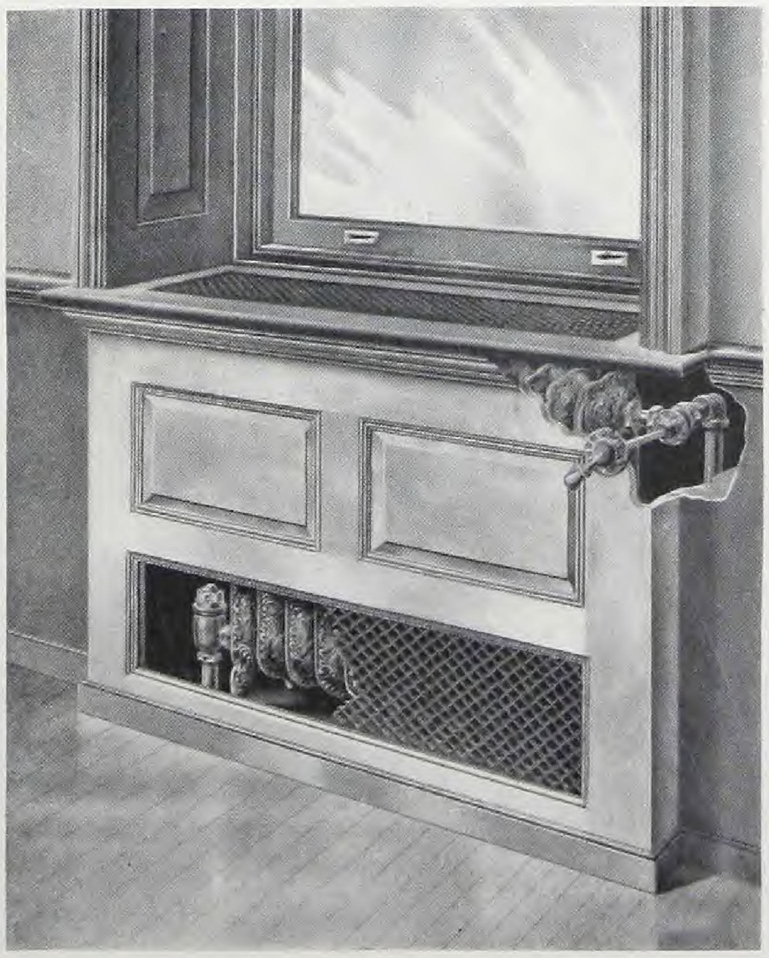


IN many fine apartments, hotels and residences there is a desire to conceal the heating apparatus as much as possible, and the architect's design frequently shows radiators enclosed in recesses in the walls or beneath window seats; the heat being emitted through grills.

In such cases it is quite essential that the occupant of the room be able to manipulate The Webster Modulation Valve from outside the enclosure. For this purpose we have produced an extended stem that forms a link between the valve on the radiator and the dial, placed either on the face, top or side of the grill or seat.

The detail of construction is shown to the left on this page, while its application is illustrated below.

One of the features of the extended stem attachment is the universal joint, which makes it possible to operate the valve even though it may not be directly in line with the handle; at the same time taking care of any misalignment due to expansion or contraction. This is especially interesting to Engineers and Contractors, who know how difficult it is at times to make accurate connections of this kind.



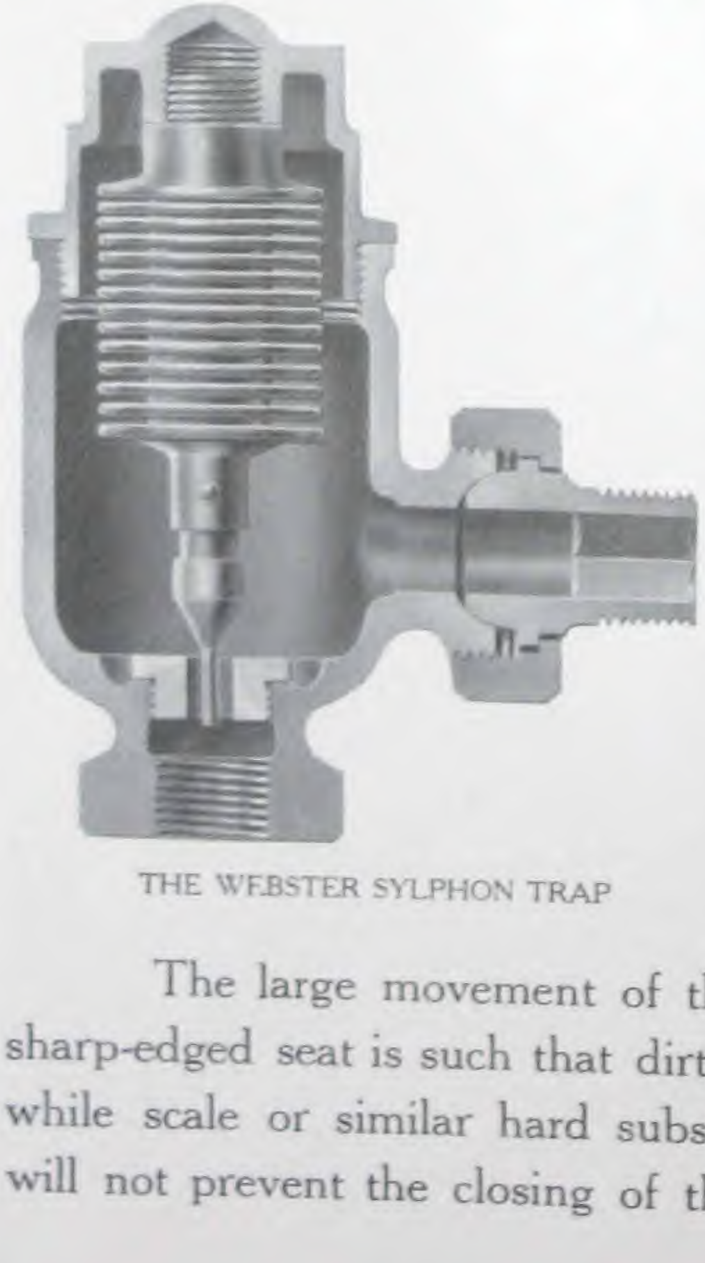
Attention is here called to the fact that The Webster Water and Air Relief Trap, shown on the radiator in the recess, is factory adjusted and requires no manipulation, therefore its location behind the screen or grill is not objectionable.

THE WEBSTER WATER AND AIR RELIEF TRAPS

OF the several Webster Water and Air Relief Traps, those best adapted to use with The Webster Modulation System are known as The Webster Sylphon Trap and The Webster Number Seven Trap, both of which are illustrated.

These traps are the result of many years of experiment and development, and the absence of all features making adjustment necessary gives them a broad scope of application.

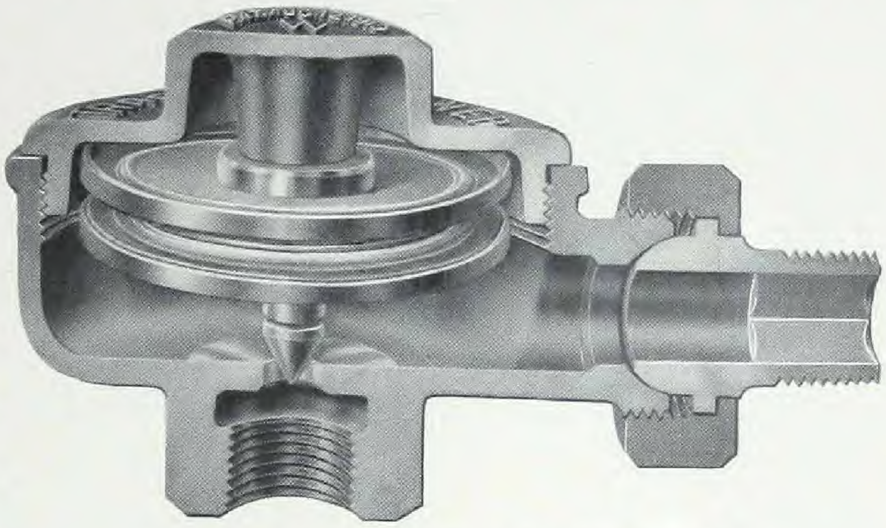
The principle of their operation is the expansion and contraction of the vapor of a volatile fluid within a thermostatic member, which is so perfectly balanced and sensitive that it will close the trap against the passage of steam and open it when air or water of condensation accumulate within the body of the trap. The bellows forming the thermostatic member of The Webster Sylphon Trap is made of seamless tubing, having twelve corrugations; the movement from full open to shut being distributed over its twenty-four surfaces. So consistent is the operation of the trap that it will open or close on a change of a few degrees in temperature, insuring full efficiency in the radiator to which it is attached and is a positive check against the escape of steam into the return.


THE WEBSTER SYLPHON TRAP

The large movement of the valve piece and its conical form above a sharp-edged seat is such that dirt or foreign matter will readily wash through, while scale or similar hard substances too large to pass through the orifice will not prevent the closing of the trap.

This is true of both The Webster Sylphon and The Webster Number Seven Traps; the effective orifice for passage of dirt and scale being equal although the movement of the valve piece in the latter is less than that of the former.

The Webster Number Seven Trap is of the Multi-Diaphragm type, providing twice the movement possible with a single diaphragm, and while not having all the refinements of The Webster Sylphon Trap, it is efficient and desirable for many Webster Modulation System installations.



THE WEBSTER NUMBER SEVEN TRAP

The Webster Sylphon Trap and The Webster Number Seven Trap possess many advantages, among which may be mentioned:

They relieve all of the air from the radiator or coil when desirable.

They pass readily all of the water of condensation.

They prevent steam from passing into the return lines.

They do not become inoperative from dirt and grease, when the latter are present in normal quantities.

They are self-cleaning.

They are automatic.

They are factory adjusted.

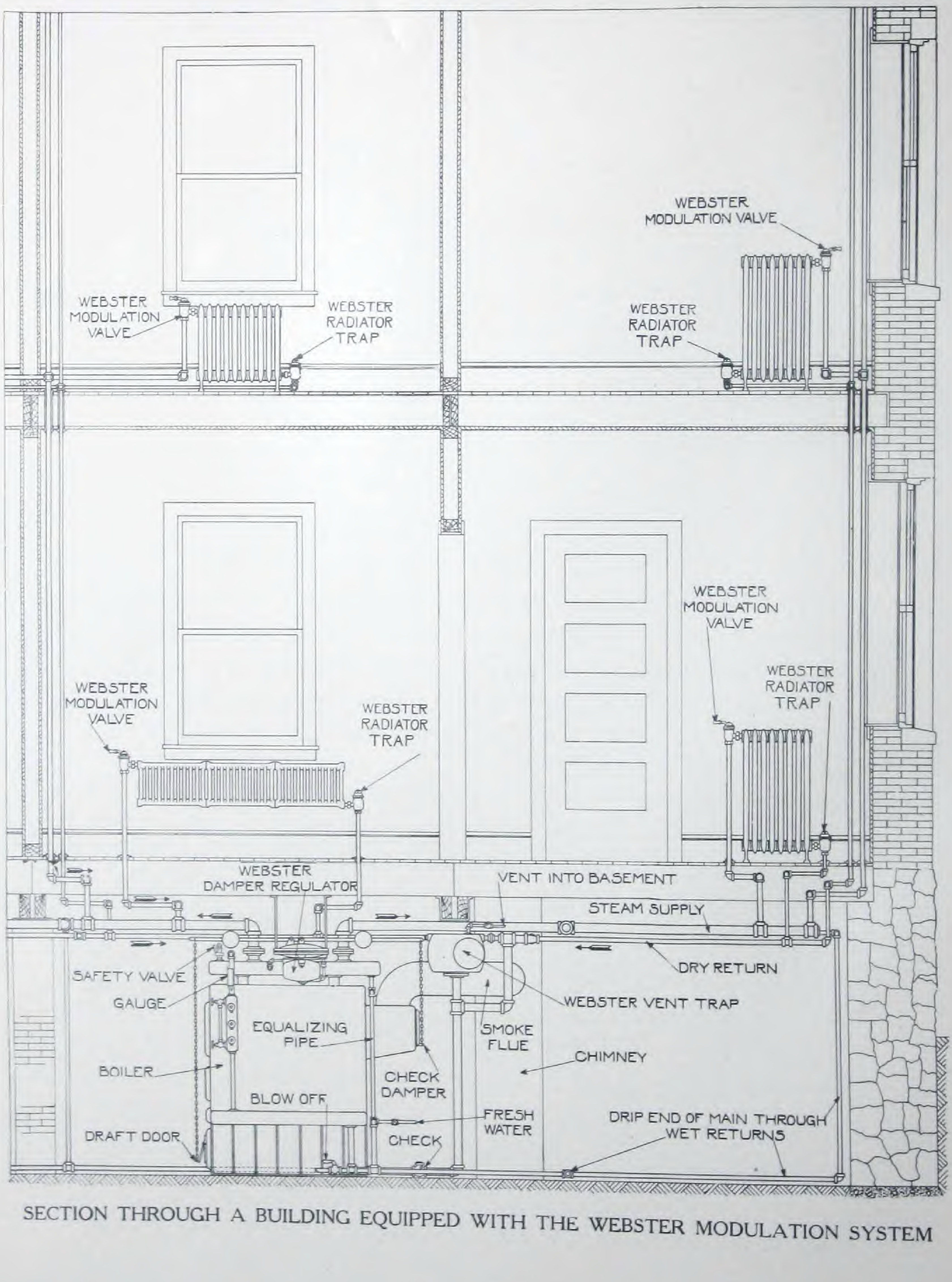
They operate equally well under the varying pressures commonly used in steam heating.

They are of suitable capacity for the purpose intended.

They require no attention, after being properly installed, except the usual inspection, before starting the system each season, for the purpose of removing any scale or foreign matter which may have accumulated during the months of idleness.

We wish to call attention to the fact that, with The Webster Modulation System, no air valves are necessary and the annoyances, leaks and bad odors frequently experienced with other systems are entirely eliminated; The Webster Water and Air Relief Traps performing the function of both air valves and radiator traps in an efficient manner.

THE WEBSTER MODULATION SYSTEM


WEBSTER MODULATION VALVE
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WEBSTER MODULATION VALVE
WEBSTER RADIATOR TRAP
WEBSTER MODULATION VALVE
WEBSTER DAMPER REGULATOR
VENT INTO BASEMENT
STEAM SUPPLY
DRY RETURN
SAFETY VALVE
GAUGE
WEBSTER VENT TRAP
EQUALIZING PIPE
SMOKE FLUE
BOILER
CHIMNEY
CHECK DAMPER
BLOW OFF
FRESH WATER
DRIP END OF MAIN THROUGH WET RETURNS
DRAFT DOOR
CHECK

SECTION THROUGH A BUILDING EQUIPPED WITH THE WEBSTER MODULATION SYSTEM

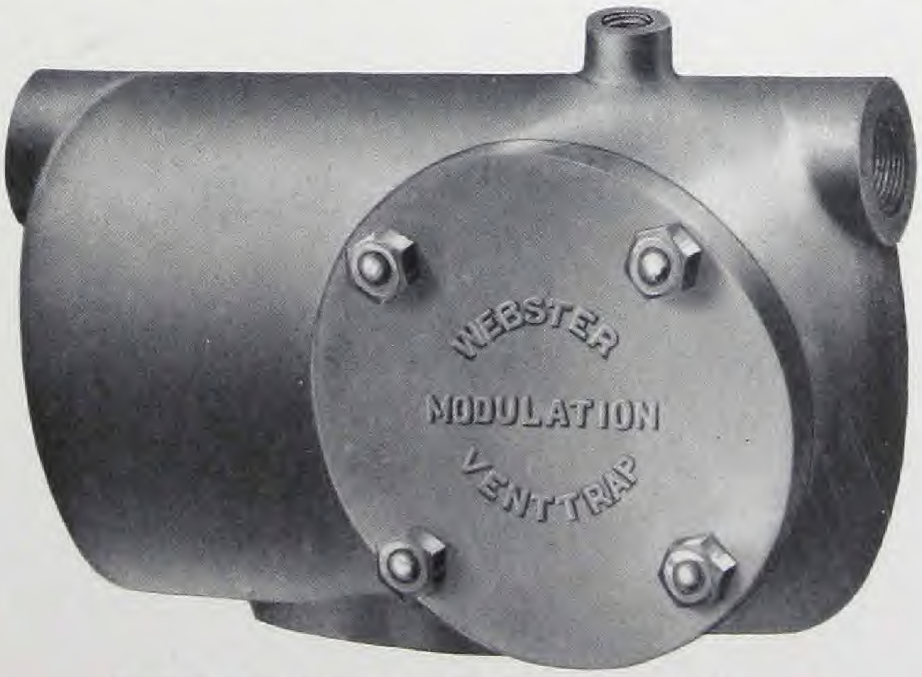
STRUCTURAL FEATURES OF THE WEBSTER MODULATION SYSTEM

THE Webster Modulation System is adaptable to buildings both large and small, this fact being substantiated by the illustrations of installations hereinafter shown. The diagram on the opposite page shows an installation in a building where a cast-iron boiler is used, and while we do not manufacture or handle boilers, we recommend the use of those which have proper grate and flue area, adequate heating surface, sufficient steam space, large water capacity, unrestricted liberating surface, low water line and are readily accessible for cleaning, all of which should be carefully considered in the selection of a boiler. Wrought-iron boilers, with or without brick setting, may be used when warranted by the size of the installation.

Runs and sizes of pipes should be so designed as to insure quick and thorough circulation of steam at low pressure. Risers and branch pipes to radiators may be concealed in the walls or partitions where desirable. The ends of mains are usually dripped through wet returns, and the dry return pipes leading from each radiator should terminate in a main leading to a Webster Vent Trap, from which a connection, with a check valve, runs to the boiler below the water line; a vent from the trap to run free to atmosphere or open into basement (never into a smoke flue). The Webster Vent Trap causes the condensation to return to the boiler and permits air to escape freely from the system.

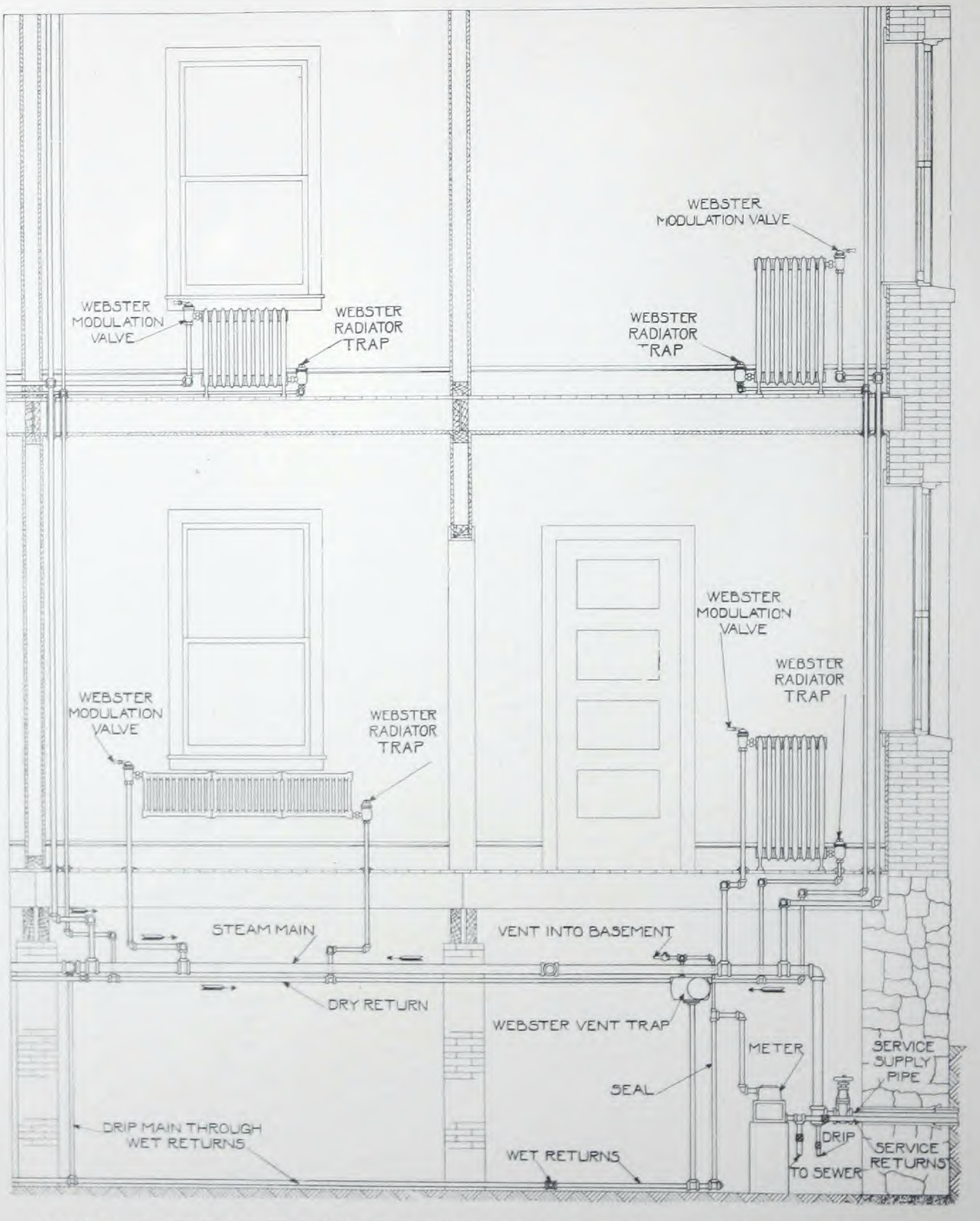
Other means for returning water to the boiler are provided where structural features of the building or conditions of use demand, but for the average building to which The Webster Modulation System is adaptable, The Webster Vent Trap is used.

See illustration on page 24 and text on page 25 for suggestions of piping around boiler and the application of The Webster Damper Regulator.



THE WEBSTER MODULATION VENT TRAP

THE WEBSTER MODULATION SYSTEM


WEBSTER MODULATION VALVE
WEBSTER MODULATION VALVE
WEBSTER RADIATOR TRAP
WEBSTER RADIATOR TRAP
WEBSTER MODULATION VALVE
WEBSTER RADIATOR TRAP
WEBSTER MODULATION VALVE
WEBSTER RADIATOR TRAP
STEAM MAIN
VENT INTO BASEMENT
DRY RETURN
WEBSTER VENT TRAP
METER
SERVICE SUPPLY PIPE
SEAL
DRIP
DRIP MAIN THROUGH WET RETURNS
WET RETURNS
TO SEWER
SERVICE RETURNS

SECTION THROUGH A BUILDING EQUIPPED WITH THE WEBSTER MODULATION SYSTEM WHERE STEAM IS TAKEN FROM AN OUTSIDE SOURCE

THE WEBSTER MODULATION SYSTEM IN BUILDINGS TAKING STEAM FROM AN OUTSIDE SOURCE

WHERE steam is taken from an outside source, the manner of installing The Webster Modulation System should be approximately as shown in the diagram on the opposite page.

Where exhaust steam is used for heating, a Webster Oil Separator, to remove cylinder lubricant, should be installed in the main line inside the building; the Separator to be drained to waste through a Webster Grease or Oil Trap.

The Webster Modulation Vent Trap, applied as shown, separates air and water, the former escaping to the atmosphere, while the latter flows by gravity through a seal to the meter.

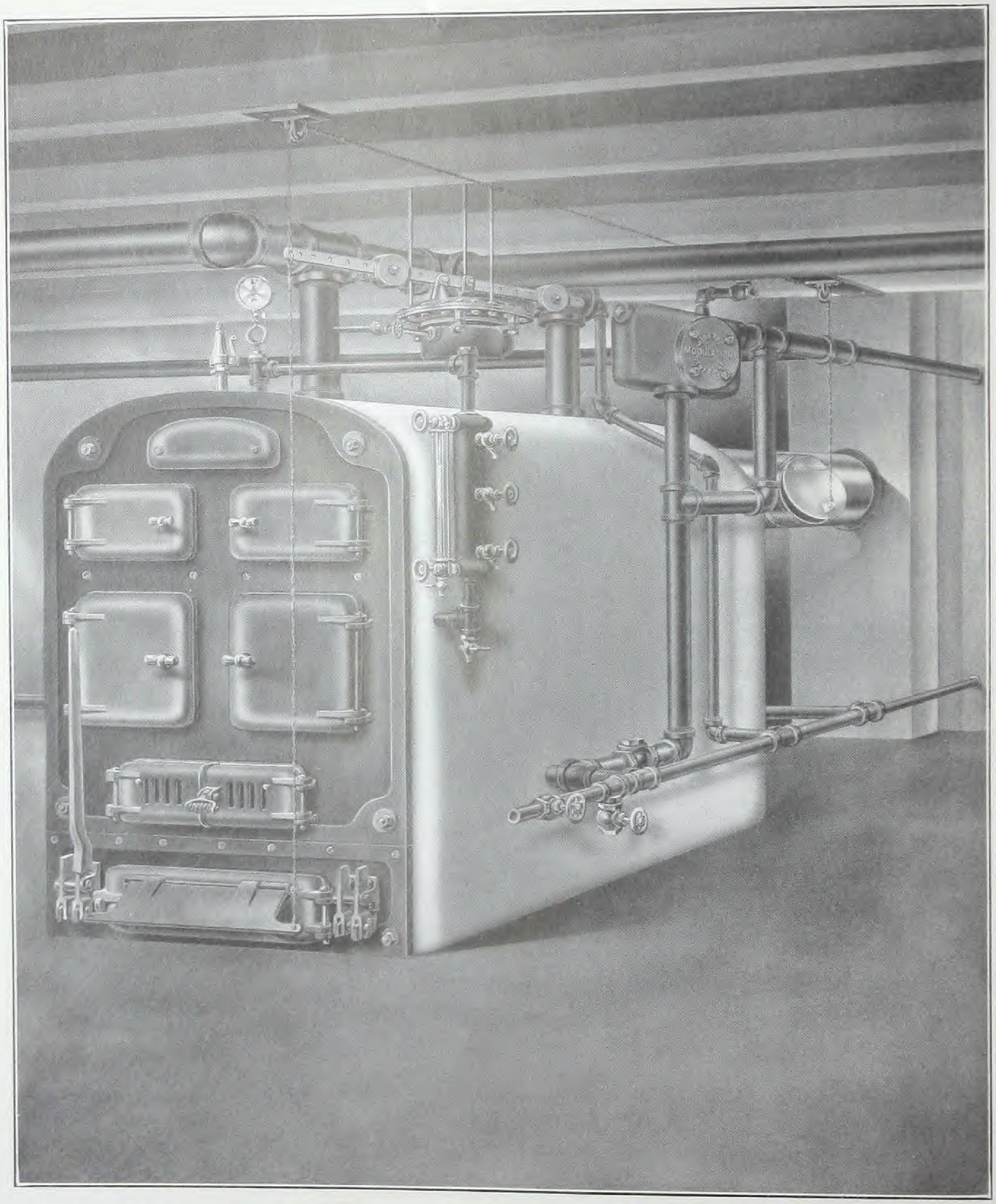
Where local regulations require a cooling coil for reducing the temperature of the condensation before being discharged to the sewer, it should be connected into the line just before the meter is reached, but the size of the coil used with The Webster Modulation System, would be comparatively small owing to the fact that The Webster Water and Air Relief Trap prevents the escape of steam beyond the radiator.

What little heat may be extracted from the return water can be utilized by passing it through an indirect radiator, discharging the heated air into one of the rooms above.

When purchasing steam at a measured rate, The Webster Modulation System will be found to be most economical, as only that amount of steam required to give the desired temperature need be used.

Observe in the illustrations on pages 10-11 how the various radiators may be heated wholly or in part by the manipulation of The Webster Modulation Valve.

Central station engineers, from whose plants steam is furnished to outside consumers, will be interested in the economical features of The Webster Modulation System, especially where heat is furnished at a flat rate.



VIEW SHOWING BOILER CONNECTIONS, INCLUDING THE WEBSTER DAMPER REGULATOR AND THE WEBSTER VENT TRAP

THE WEBSTER DAMPER REGULATOR

TO automatically control the draft of the boiler and to maintain a constant steam pressure in the heating system, a most sensitive and accurately balanced damper regulator is required.

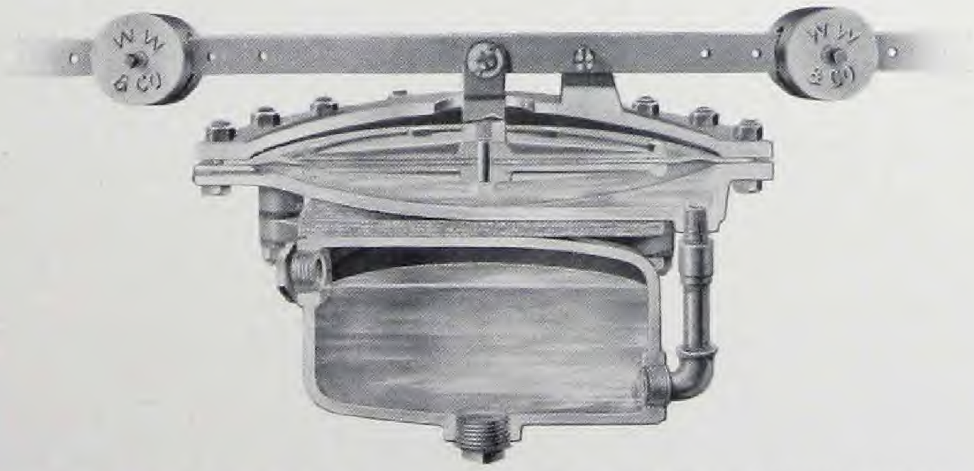
The Webster Damper Regulator, illustrated below, fulfills all of the exacting requirements, and its application for controlling both the draft door and the check damper may be seen on the opposite page.

So sensitive is this regulator that it will control the fire so as to maintain a steam pressure within a few ounces of that for which it is set.

In the illustration on the opposite page may be seen The Webster Modulation Vent Trap and its application to this type of apparatus. Text on page 21 relates to this subject.

The boilers shown in the various illustrations are of the cast-iron type, but, where size of plant demands, the wrought iron boiler, either with or without brick setting, can be successfully used with The Webster Appliances.

A very concise and complete Instruction Card, to be hung upon the boiler room wall, is furnished for each installation of The Webster Modulation System, so that the person in charge may have full information as to the proper care and operation of the entire apparatus.



SECTIONAL VIEW OF THE WEBSTER DAMPER REGULATOR

RESIDENCE OF R. S. HOYT, SOUTHAMPTON, LONG ISLAND, N. Y.

Hiss & Weekes
Architects

James H. Merritt & Co.
Heating Contractors

RESIDENCE OF CHARLES W. GATES, MINNEAPOLIS, MINN.

Marshall & Fox
Architects

Mehring & Hanson Co.
Heating Contractors

RESIDENCES

THE greatest care should be taken in selecting the type and make of heating apparatus to be used in the home, for, aside from economy, which should always be considered, the convenience and ease of operation is equally important with efficiency and comfort.

There have been many methods of heating since the era of the stove and grate, but none so complete and satisfactory as The Webster Modulation System of Steam Heating.

Whether the home has but the usual eight rooms for the small family or is a country seat of broad expanse, The Webster Modulation System is equally adaptable, and the great number of installations in all parts of this country and the Dominion of Canada should be convincing proof to the prospective builder that he need look no further for the proper method of heating.

A few representative installations of The Webster Modulation System in residences of various sizes are illustrated and a partial list is given.

Mrs. G. S. Achilles,	Briarcliff,	New York
E. E. Atkinson,	Minneapolis,	Minnesota
C. H. Chandler,	Topeka,	Kansas
Mrs. G. A. C. Christiancy,	Hartsdale,	New York
Herbert L. Clark,	Wayne,	Pennsylvania
James K. Cutler,	Hamilton,	Ohio
J. C. Deal,	Norfolk,	Virginia
F. N. Doubleday,	Oyster Bay,	New York
Daniel England,	Pittsfield,	Massachusetts
John Evans,	Denver,	Colorado
J. A. Faessler,	Moberly,	Missouri
John L. Fales,	Newark,	New Jersey
Carl Fisher,	Indianapolis,	Indiana
W. R. Glover,	Wilmette,	Illinois
F. S. Groves, Jr.,	Cinnaminson,	New Jersey

RESIDENCE OF ORVILLE WRIGHT, DAYTON, OHIO

Schenck & Williams
Architects

Samuel J. Hoerner
Heating Contractor

RESIDENCE OF W. D. DOWNS, DENVER, COL.

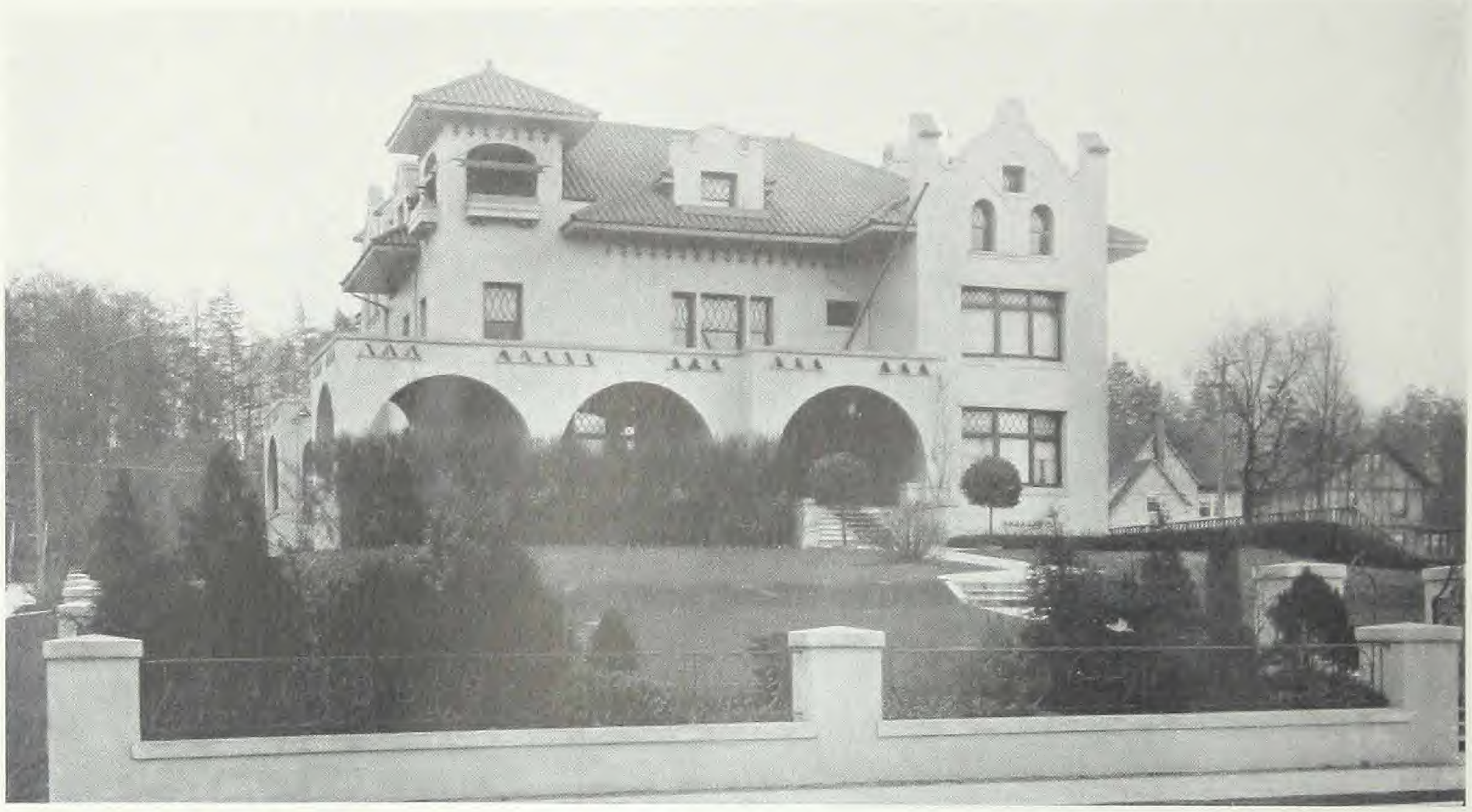
Sterner & Williamson
Architects

Johnson & Davis Plumbing & Heating Co.
Heating Contractors

RESIDENCES—Continued

C. A. Hanson,	Chicago,	Illinois
H. O. Havemeyer,	Mahwah,	New Jersey
S. Hodges,	Chicago,	Illinois
Dr. F. G. Hodgson,	Atlanta,	Georgia
J. W. Hodgson,	Houghton,	Michigan
W. H. Huff,	Denver,	Colorado
Sydney E. Hutchinson,	Philadelphia,	Pennsylvania
J. Will Johnson,	Pueblo,	Colorado
John Joyce,	Andover,	Massachusetts
R. E. Jordan,	Norfolk,	Virginia
Albert Lieber,	Indianapolis,	Indiana
E. J. Longyear,	Lake Minnetonka,	Minnesota
Hon. R. J. Maddox,	Brookhaven,	Georgia
John H. Mahler,	Durham,	North Carolina
Dr. Mannings,	Omaha,	Nebraska
William Mavor,	La Grange,	Illinois
A. Meeker,	Chicago,	Illinois
Hugh S. Morrison,	Richmond,	Virginia
Mrs. Stanley Mortimer,	Tuxedo Park,	New York
V. S. Mulford,	Montclair,	New Jersey
John G. Osborne,	Radford,	Virginia
T. J. Pendergast,	Kansas City,	Missouri
J. H. Poor,	New York,	New York
Thomas Rodd, Jr.,	Pittsburgh,	Pennsylvania
J. G. Schmidlapp,	Cincinnati,	Ohio
Joseph Sellwood,	Duluth,	Minnesota
E. W. Sheldon,	New York,	New York
J. A. Sheppard,	Huntington,	West Virginia
Myron Stratton,	Colorado Springs,	Colorado
G. E. Stifel,	Wheeling,	West Virginia
Charles F. Stockhausen,	Baltimore,	Maryland
F. D. Stokes,	Elk Hill,	Virginia
A. C. Torbitt,	Springfield,	Missouri
Russell Uhl,	Wilkes-Barre,	Pennsylvania
Z. F. Wright,	Newberry,	South Carolina

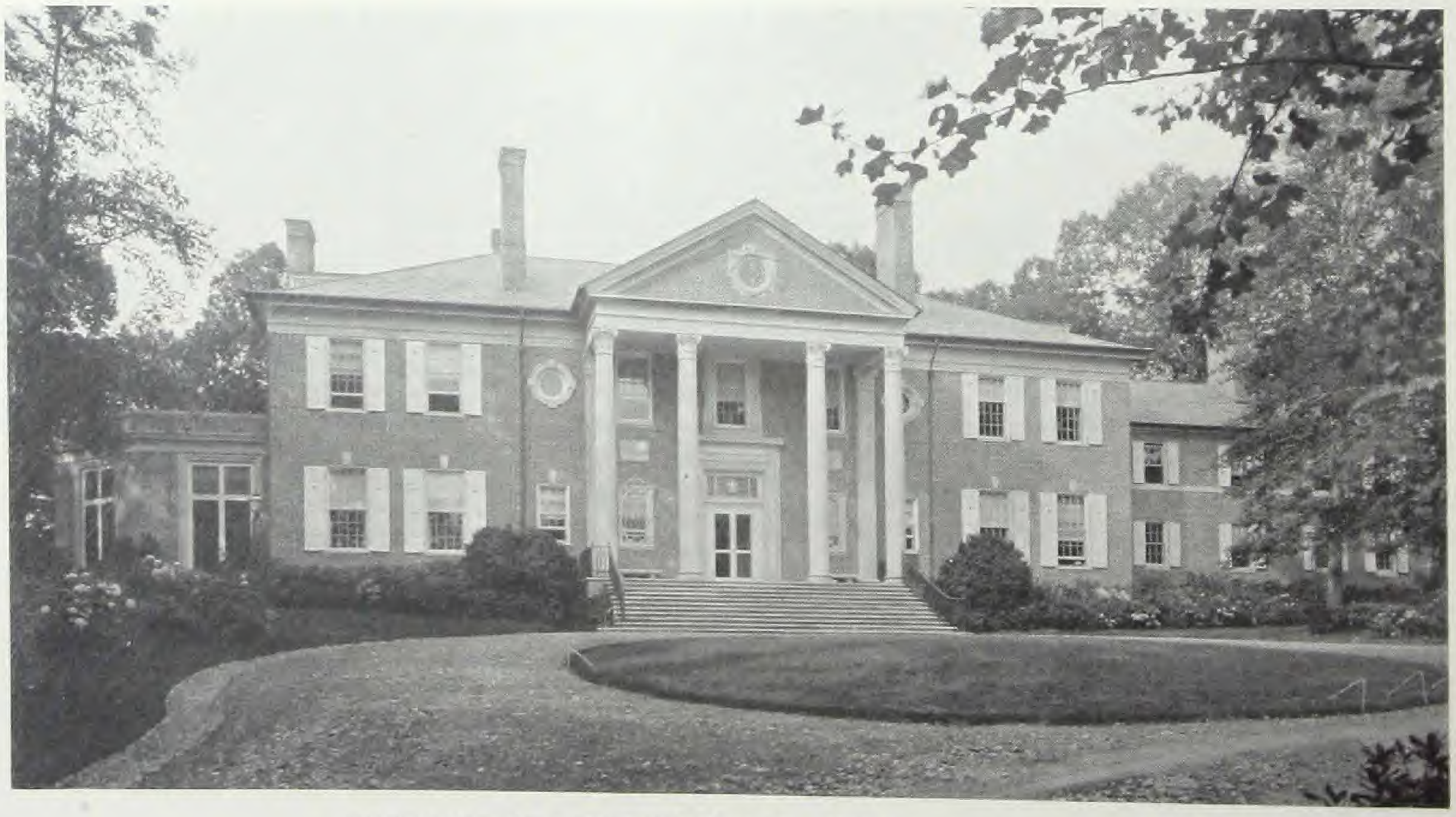
Before deciding upon your heating system consult us



RESIDENCE OF WALLACE G. COLLINS, SEATTLE, WASH.

W. W. Oates
Architect

Seattle Heating & Plumbing Co.
Heating Contractors



RESIDENCE OF JAMES PARMELEE, WASHINGTON, D. C.

Chas. A. Platt
Architect

York Engineering Co.
Heating Contractors

STEAM HEATING THE RESIDENCE

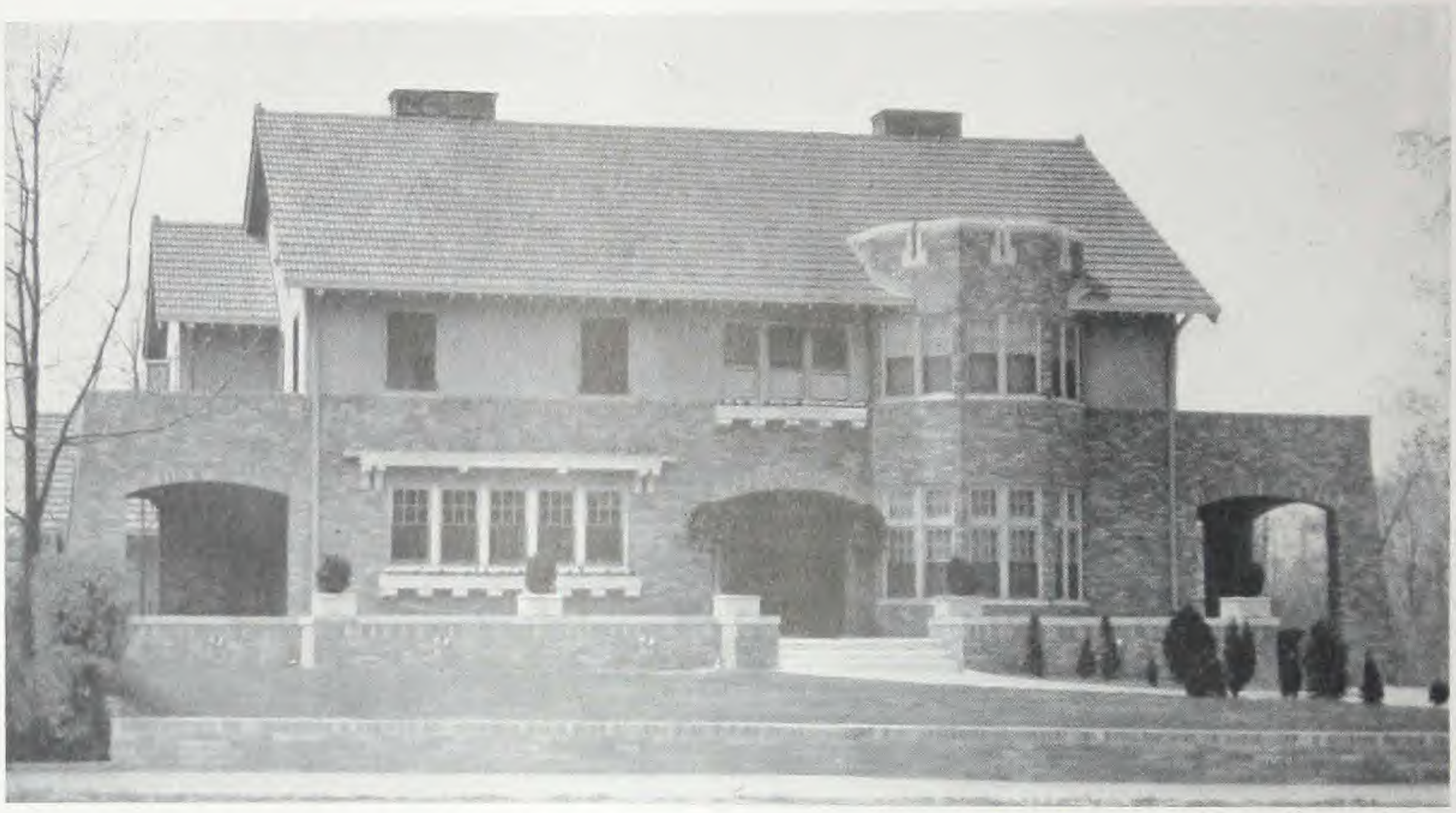
RESIDENCE OF E. M. STATLER, BUFFALO, N. Y.

Esenwein & Johnson
Architects

RESIDENCE OF JAMES DUNSMUIR, VICTORIA, B. C.

S. Maclure
Architect

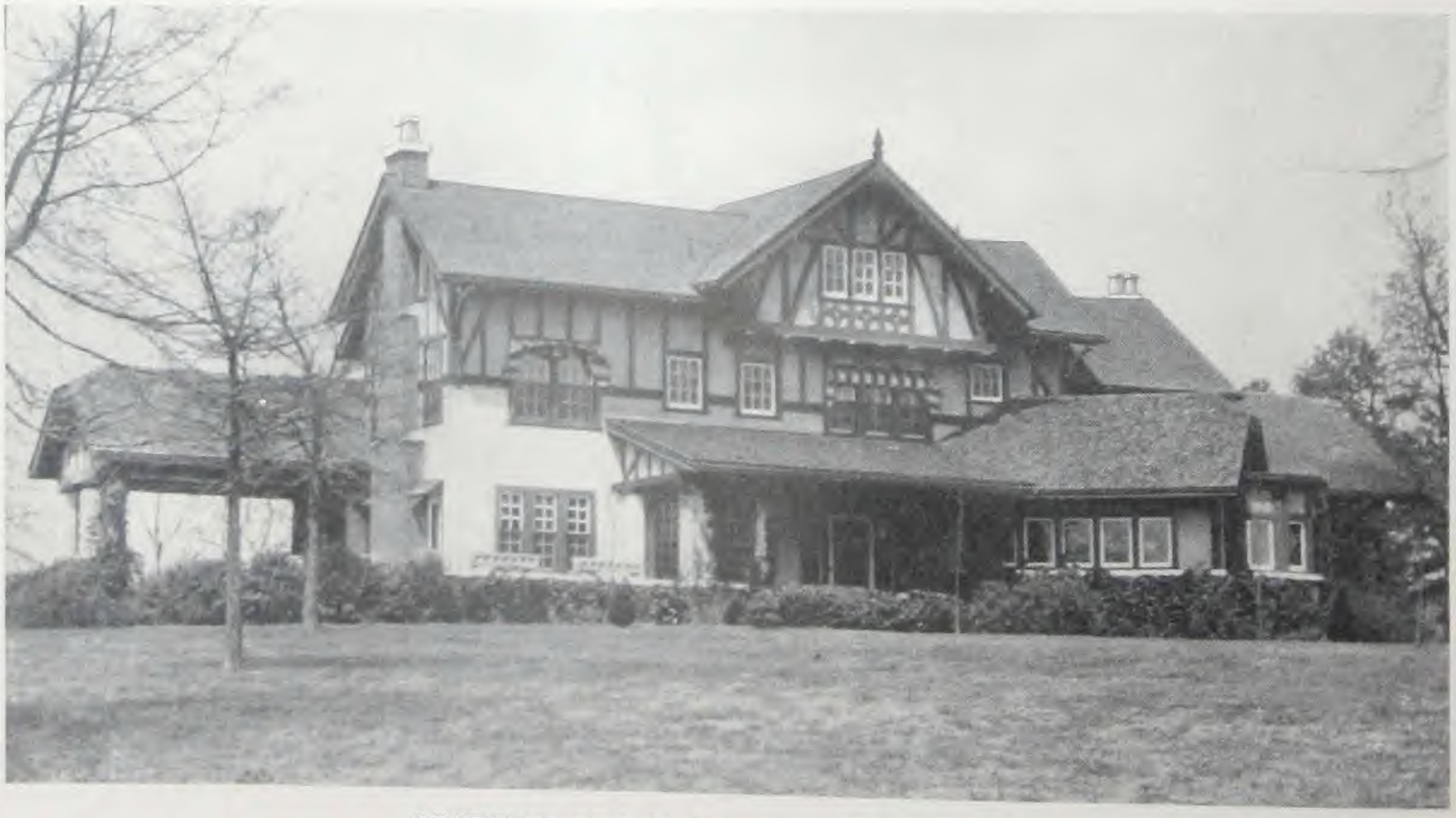
R. J. Nott
Heating Contractor



RESIDENCE OF M. C. KING, ATLANTA, GA.

E. E. Dougherty
Architect

Jennings-Gresham Co.
Heating Contractors



RESIDENCE OF J. M. SLATON, ATLANTA, GA.

Morgan & Dillon
Architects

Farrell Heating & Plumbing Co.
Heating Contractors

STEAM HEATING THE RESIDENCE

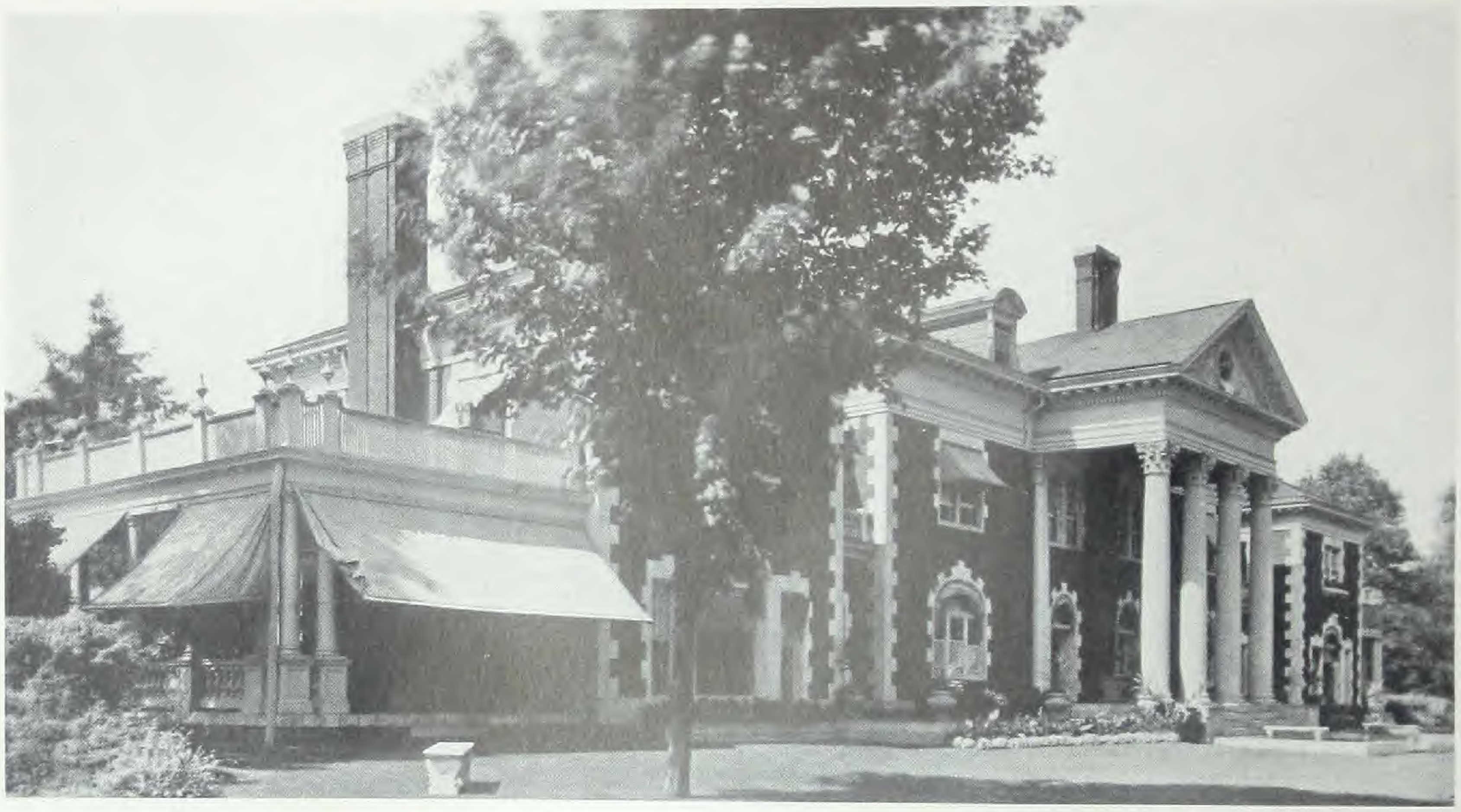
RESIDENCE OF A. CIRALSKY, SOUTH BEND, IND.

Wm. H. Burke
Heating Contractor

RESIDENCE OF CYRUS H. McCORMICK, LAKE FOREST, ILL.

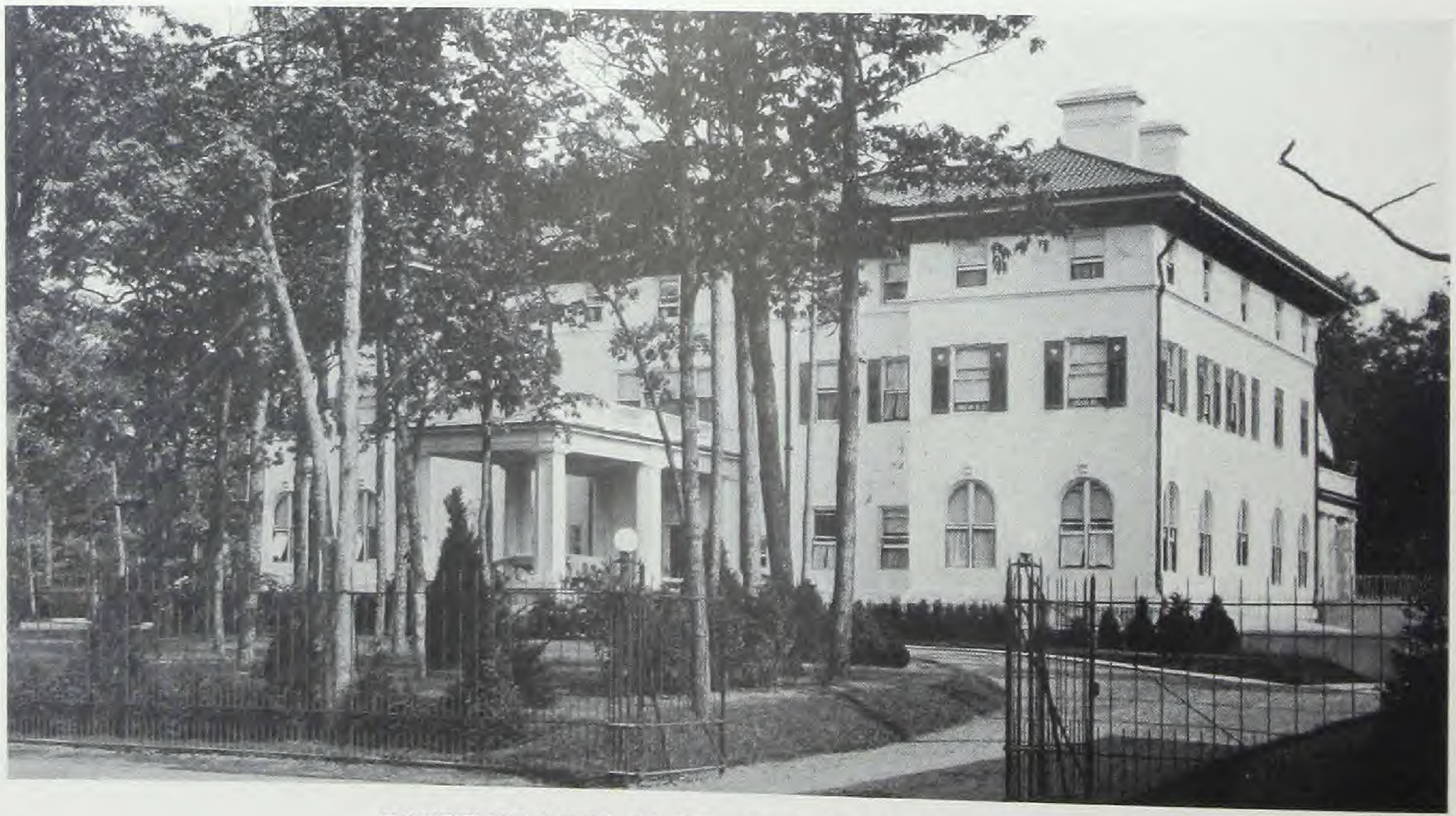
Richard E. Schmidt, Garden & Martin
Architects

Gallaher & Speck
Heating Contractors



RESIDENCE OF DAVID WAGSTAFF, TUXEDO PARK, N. Y.

MacLachlin & Oram
Heating Contractors



RESIDENCE OF W. W. WILLOCK, LAKEWOOD, N. J.

Hiss & Weekes
Architects

M. R. McKelvey
Heating Contractor

STEAM HEATING THE RESIDENCE

RESIDENCE OF A. C. GIBSON, GERMANTOWN, PA.

Wilson, Harris & Richards
Architects

John Miller & Son
Heating Contractors

RESIDENCE OF GEORGE GAY, INDIANAPOLIS, IND.

Kirkhoff Bros.
Heating Contractors

RESIDENCE OF E. W. SHEILDS, KANSAS CITY, MO.

Wilder & Wight
Architects

Mueller Heating Co.
Heating Contractors

RESIDENCE OF WM. M. SCOTT, RADNOR, PA.

Bissell & Sinkler
Architects

H. F. Murphy & Co.
Heating Contractors

RESIDENCE OF GEO. LEE, KINGSTON, PA.

Thomas Podmore
Architect

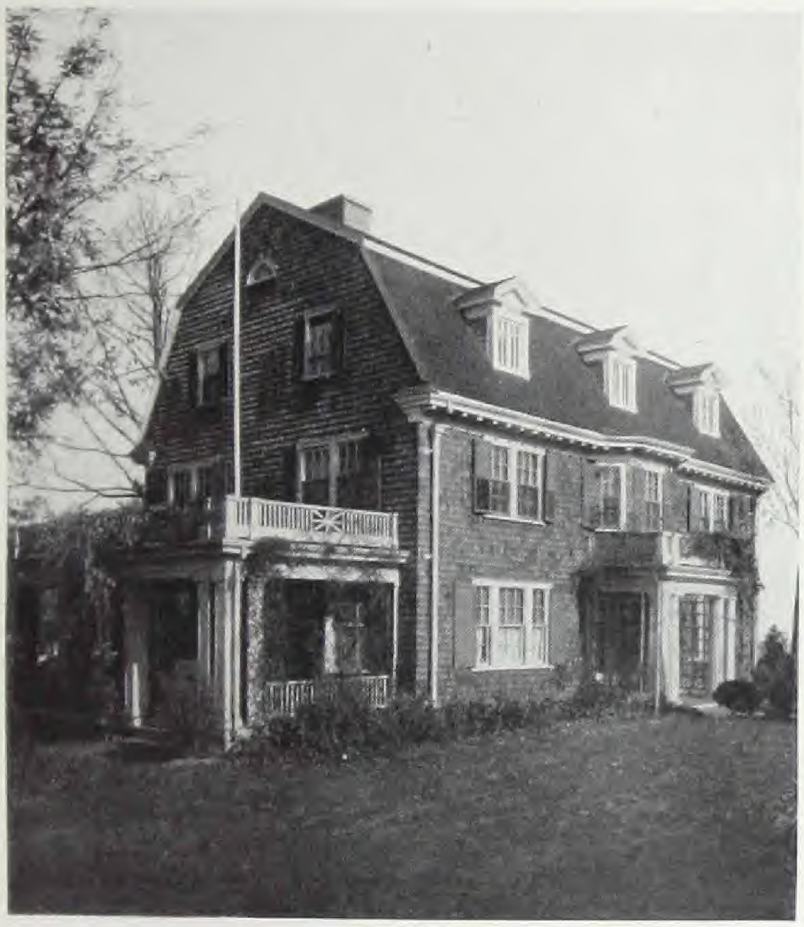
Wyoming Eng. & Con. Co.
Heating Contractors

RESIDENCE OF J. B. STETSON, MELROSE PARK, PA.

Stearns & Castor
Architects

S. Faith & Co.
Heating Contractors

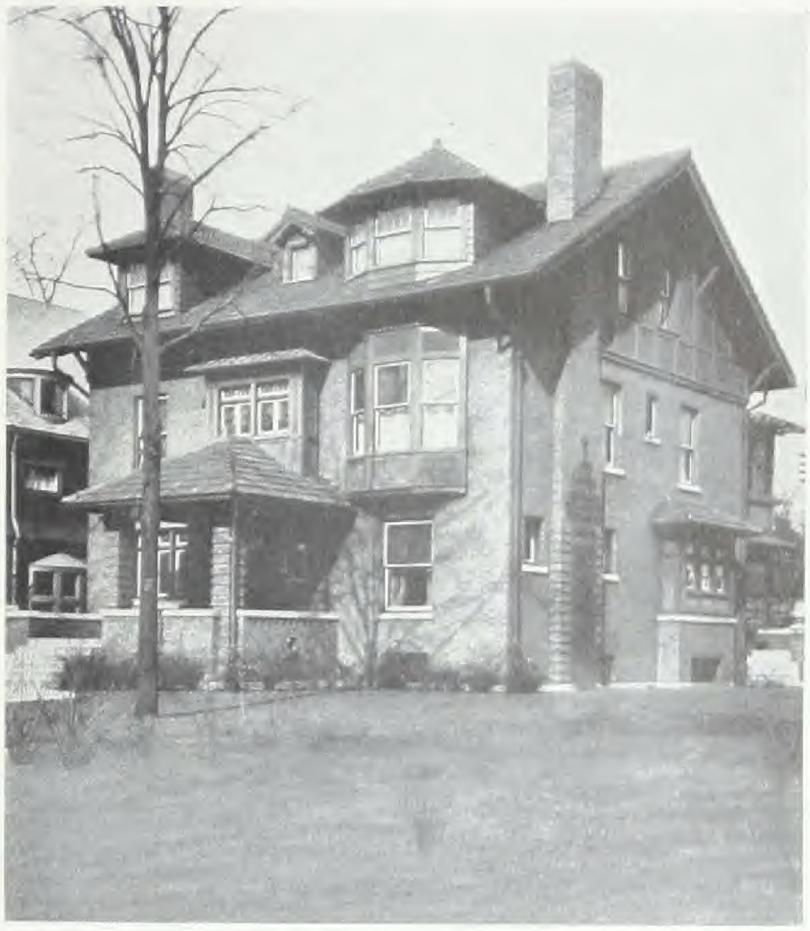
STEAM HEATING THE RESIDENCE



RES. OF WM. G. SNOW, NEWTON CENTRE, MASS.

Edward B. Stratton
Architect

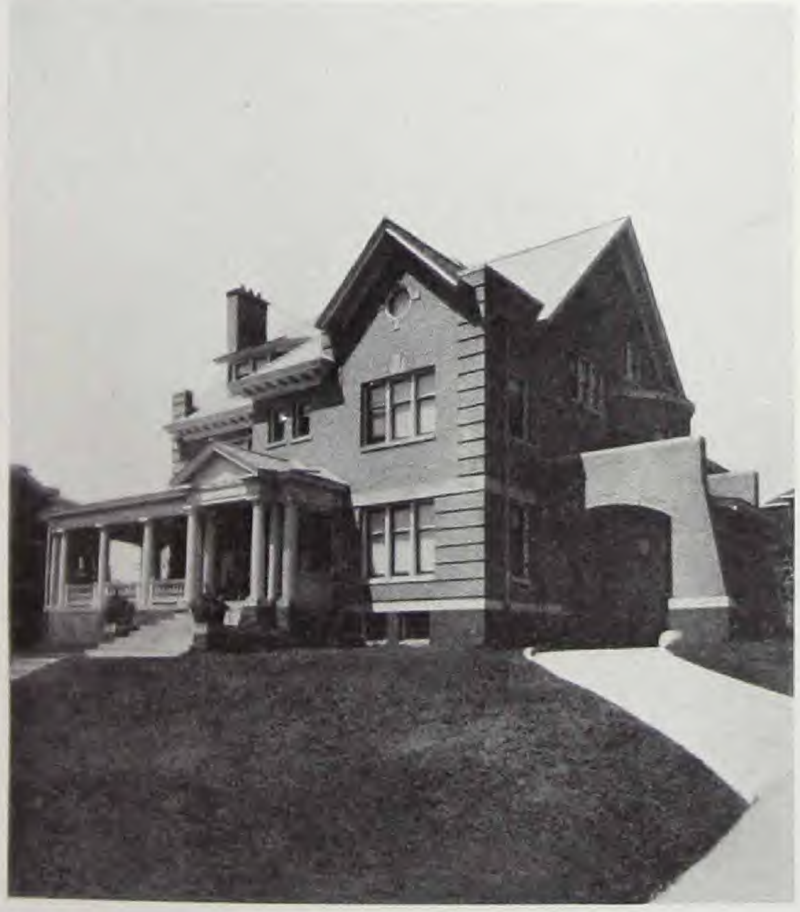
G. Wilbur Thompson
Heating Contractor



RESIDENCE OF HERMAN LIEBER, INDIANAPOLIS, IND.

Vonnegut & Bohn
Architects

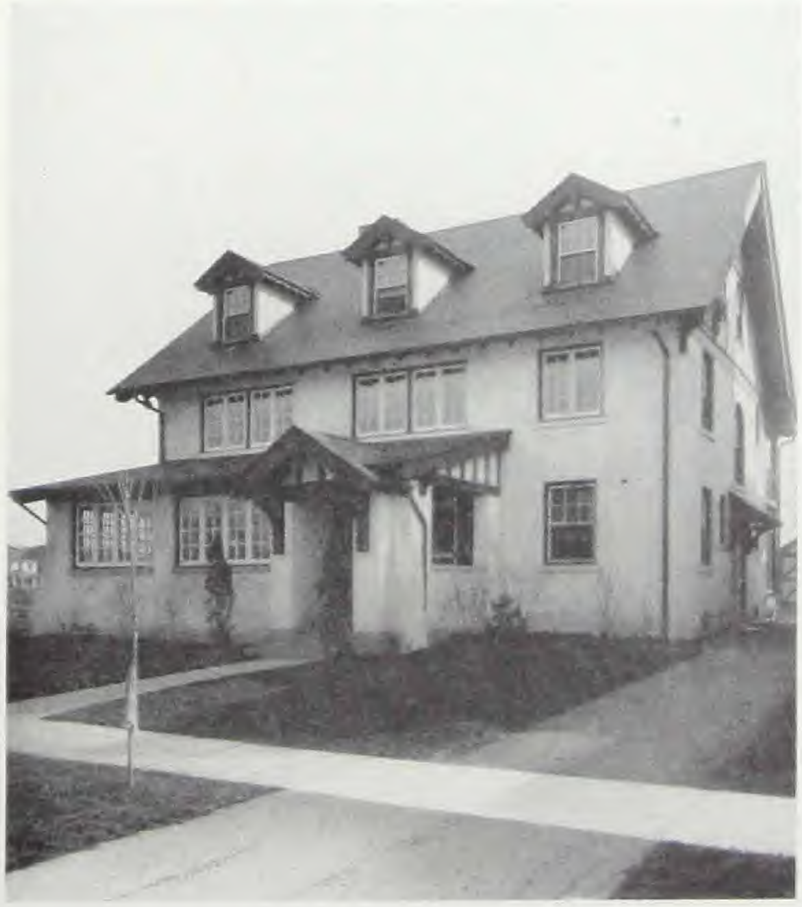
Hayes Bros.
Heating Contractors



RESIDENCE OF NORMAN McDONALD, DULUTH, MINN.

W. A. Hunt
Architect

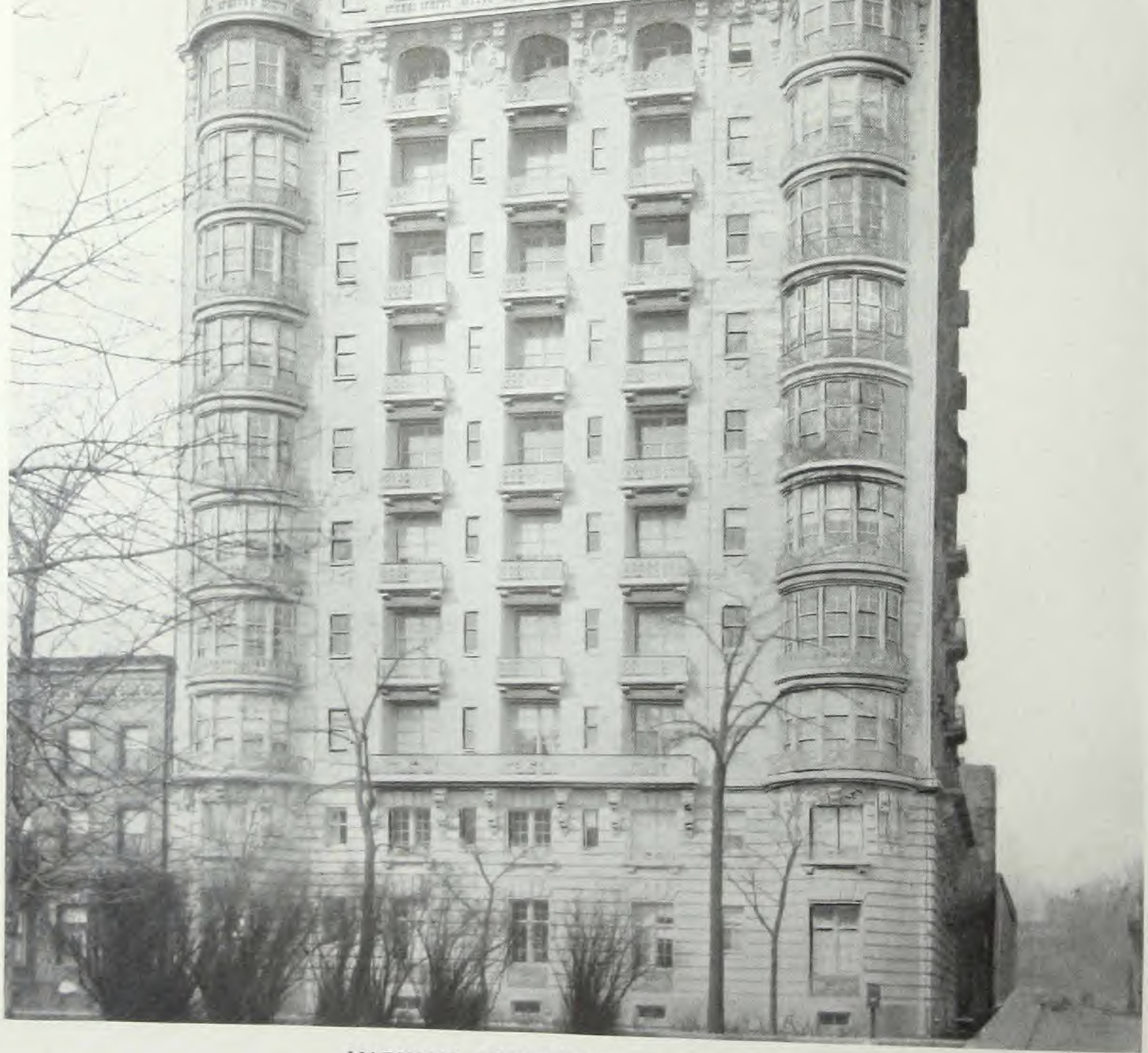
D. R. Black Co.
Heating Contractors



RESIDENCE OF EDMOND POGGI, KINGSTON, PA.

E. Poggi
Architect

J. R. Steinhauer
Heating Contractor



MARSHALL APARTMENTS, CHICAGO, ILL.

Marshall & Fox
Architects

J. R. Kehm Co.
Heating Contractors

APARTMENT BUILDINGS AND HOTELS

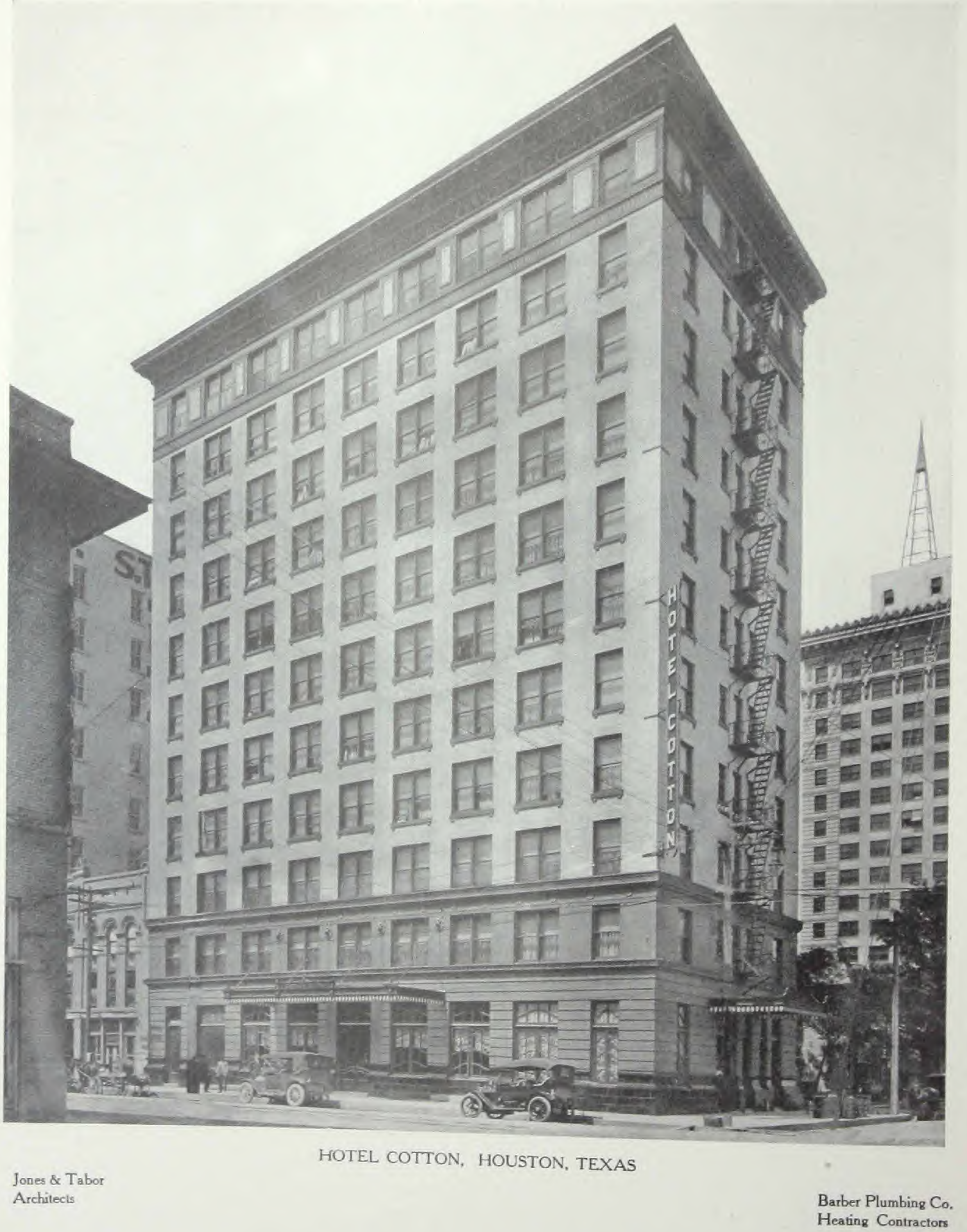
IN the planning of an apartment building or hotel, whether large or small, the owner would do well to investigate The Webster Modulation System of Steam Heating, for it is by far the best method known, where comfort, convenience and economy are desired. When the heating forms part of the lease existing between owner and tenant, as it does in the hotel and apartment, the guest or tenant rarely cares whether the fuel cost is great or small and invariably pays little attention to such matters.

It is natural for the layman to try to admit into the radiator only that quantity of steam which he thinks is necessary, but finding the attempt to control the steam is followed by water hammer and imperfect circulation, he opens the supply valve wide, and when the room becomes too hot, opens the window. This results in a constant drain upon the coal pile, which runs up the fuel bill.

With The Webster Modulation System of Steam Heating, the attempt to graduate the temperature in the room by the admission of a greater or less amount of steam into the radiator brings the very result expected, and the guest or tenant unconsciously effects an economy in fuel which would otherwise be impossible.

Some of the finest apartment buildings and hotels in the United States and Canada are equipped with The Webster Modulation System, illustrations of representative installations being shown herein and a selected list given.

Anderson Building and Loan Apartments,	Anderson,	Indiana
Apartment House for Byron Souders,	Atlanta,	Georgia
Barton Hotel,	Indianapolis,	Indiana
E. S. Bixler Apartments,	Easton,	Pennsylvania
R. H. Boggs Hotel,	Pittsburgh,	Pennsylvania
Breakers Apartments,	Chicago,	Illinois
Dr. D. B. Bundy Apartment Building,	Middletown,	Ohio


HOTEL COTTON
ST

HOTEL COTTON, HOUSTON, TEXAS

Jones & Tabor
Architects

Barber Plumbing Co.
Heating Contractors

APARTMENT BUILDINGS AND HOTELS—Continued

Cable Apartments,	Chicago,	Illinois
Carolina Court Apartments,	Seattle,	Washington
Colonial Apartments,	Bangor,	Maine
Courtland Apartments,	Lynchburg,	Virginia
Cowen Apartments,	Seattle,	Washington
Thomas Emery Apartments,	Cincinnati,	Ohio
Firebaugh Apartments,	Chicago,	Illinois
Wade H. George Apartments,	Great Falls,	Montana
Gresham Court Apartments,	Richmond,	Virginia
Helene Apartments,	Camden,	New Jersey
Holly Hotel,	Charleston,	West Virginia
Huntington Hotel,	Easton,	Pennsylvania
Hyde Apartments,	Ft. Dodge,	Iowa
Lancaster Auto Co.'s Apartment House and Garage,	Lancaster,	Pennsylvania
Langton Apartments,	Peoria,	Illinois
Larson Apartments,	Chicago,	Illinois
Lewis Apartments,	Seattle,	Washington
J. H. Lukey Apartment Bldg.,	Dayton,	Ohio
Katherine L. Lynn Hotel,	Duluth,	Minnesota
J. E. O'Brien Apartment House,	Denver,	Colorado
Plaza Hotel,	Indianapolis,	Indiana
Pittlekau Apartments,	Portland,	Oregon
Rosencrantz Flats,	Evansville,	Indiana
Saco-Lowell Hotel,	Newton Upper Falls,	Massachusetts
Snell Apartment,	Ft. Dodge,	Iowa
Sumner Apartments,	Newton Centre,	Massachusetts
C. A. Tucker Apartments,	Lincoln,	Nebraska
Werner Apartments,	Atlanta,	Georgia
Wimmer Estate Hotel,	Indianapolis,	Indiana

Before deciding upon your heating system consult us

ROYAL HOTEL, EXCELSIOR SPRINGS, MO.

J. H. Felt & Co.
Architects

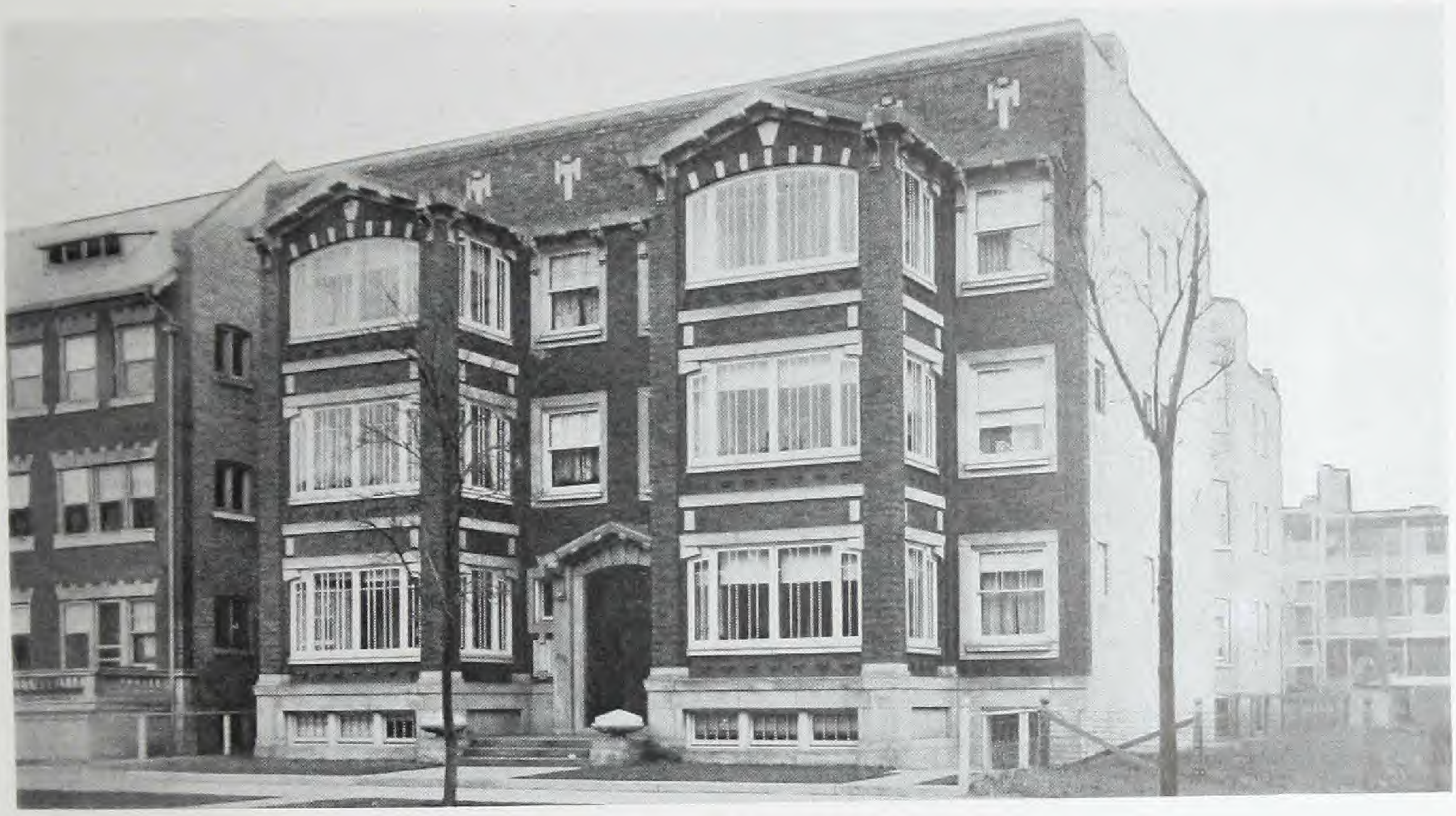
Lewis & Kitchen
Heating Contractors

BUCKINGHAM APARTMENTS, INDIANAPOLIS, IND.

Rubush & Hunter
Architects

Kirkhoff Bros.
Heating Contractors

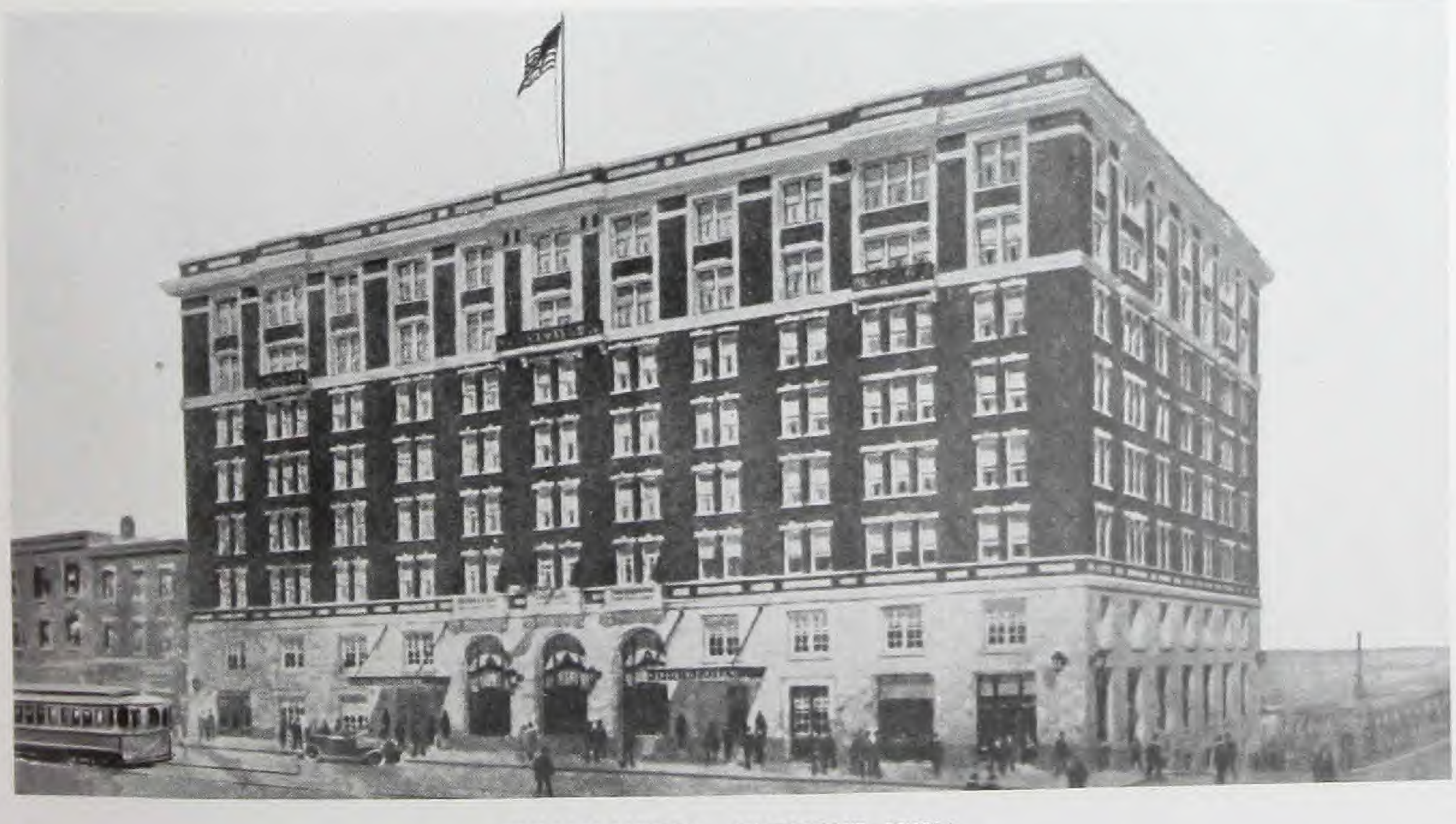
STEAM HEATING THE APARTMENT OR HOTEL BUILDING



MILLER APARTMENTS, CHICAGO, ILL.

Robt. S. Smith
Architect

Geo. H. Kirk
Heating Contractor



JULIAN HOTEL, DUBUQUE, IOWA

Marshall & Fox
Architects

Linehan & Molo
Heating Contractors

ROXBOROUGH APARTMENTS, OTTAWA, CANADA

H. C. Stone
Architect

Garth Company
Heating Contractors

MELLIS APARTMENTS, WASHINGTON, D. C.

A. B. Mullett & Co.
Architects

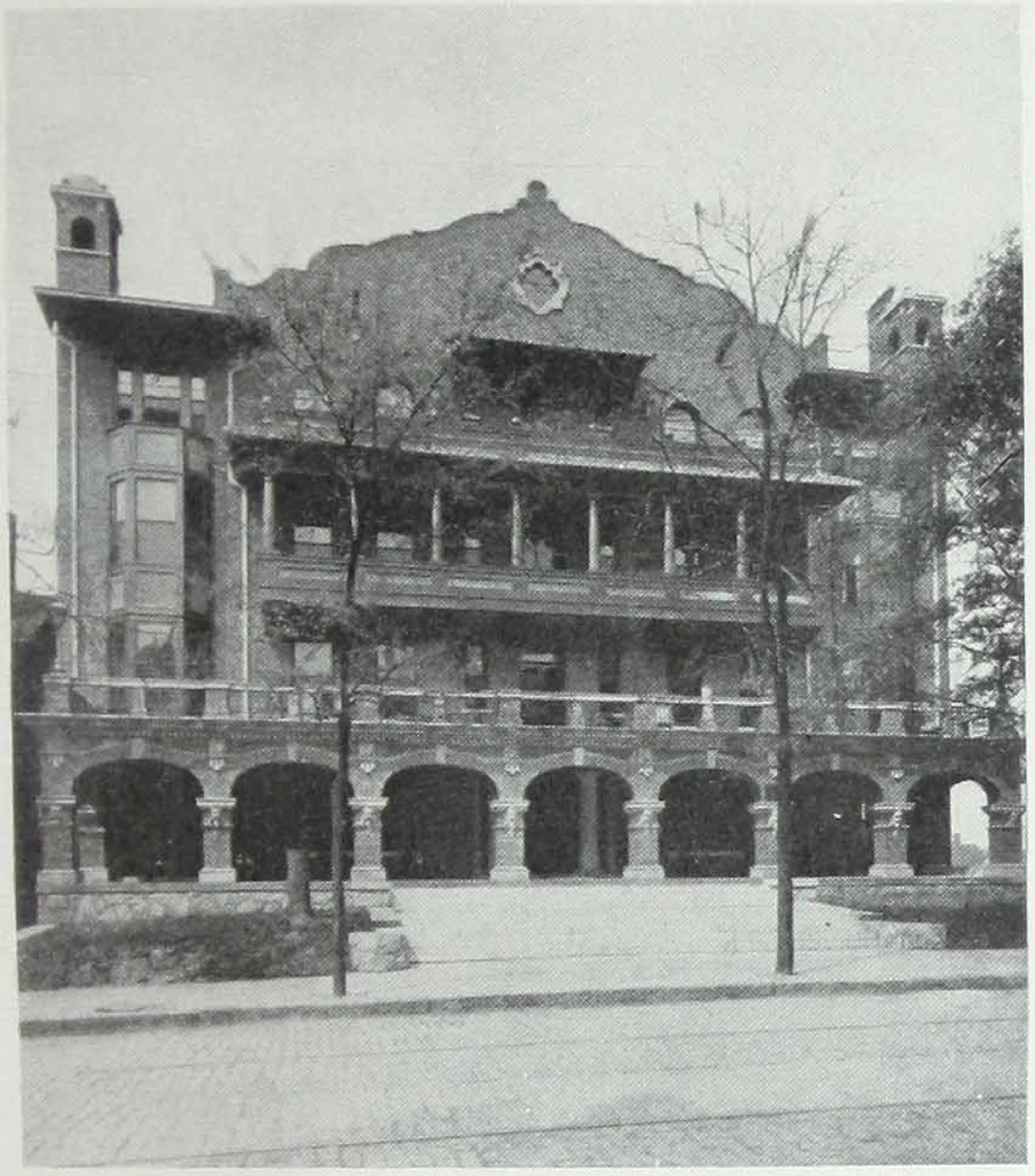
Zellers & Co.
Heating Contractors

HOTEL RUEGER, RICHMOND, VA.

Chas. M. Robinson, Inc.
Architects

Standard Engineering Co.
Heating Contractors

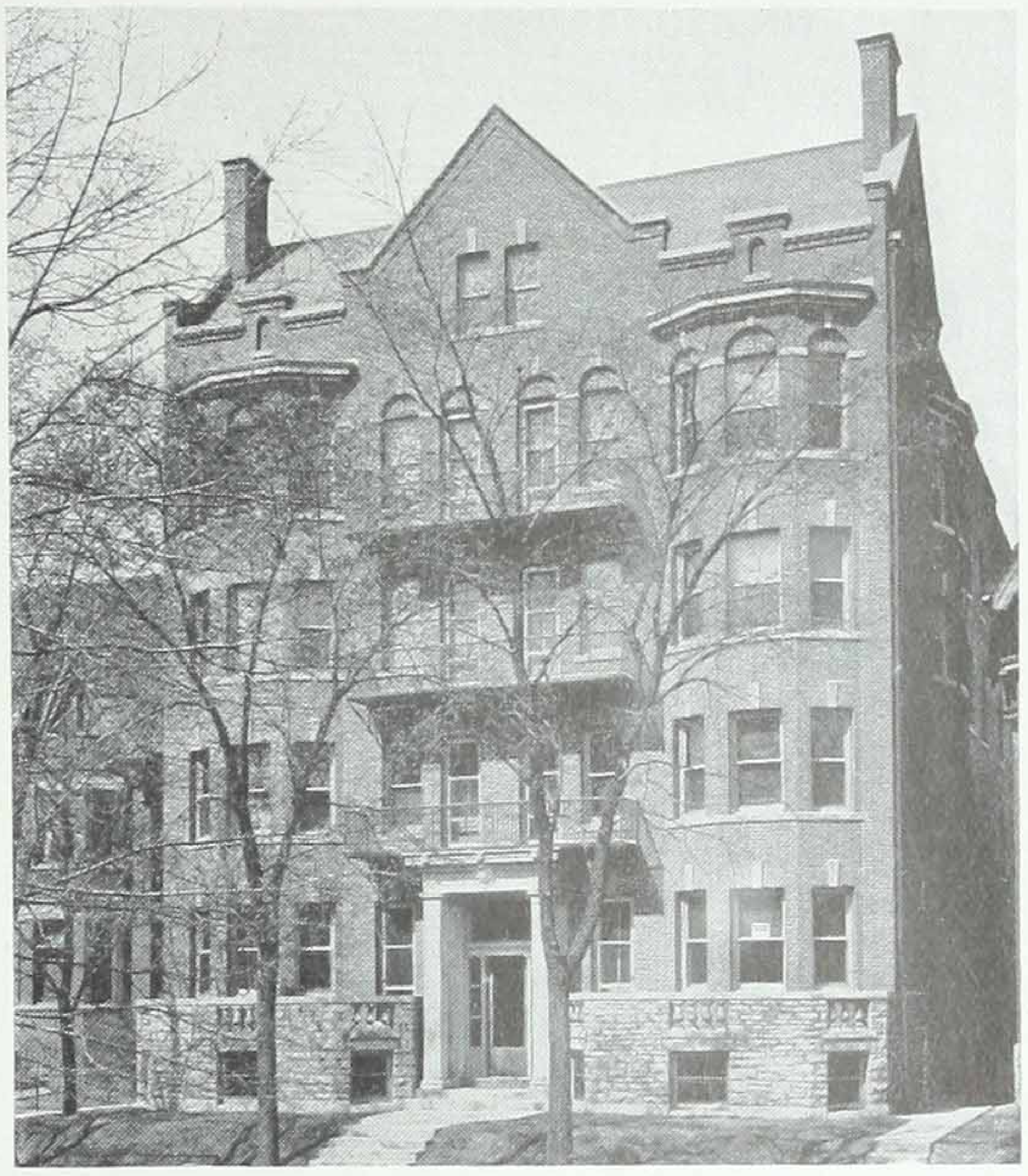
STEAM HEATING THE APARTMENT OR HOTEL BUILDING



BYRON APARTMENTS, ATLANTA, GA.

J. R. MacEachron
Architect

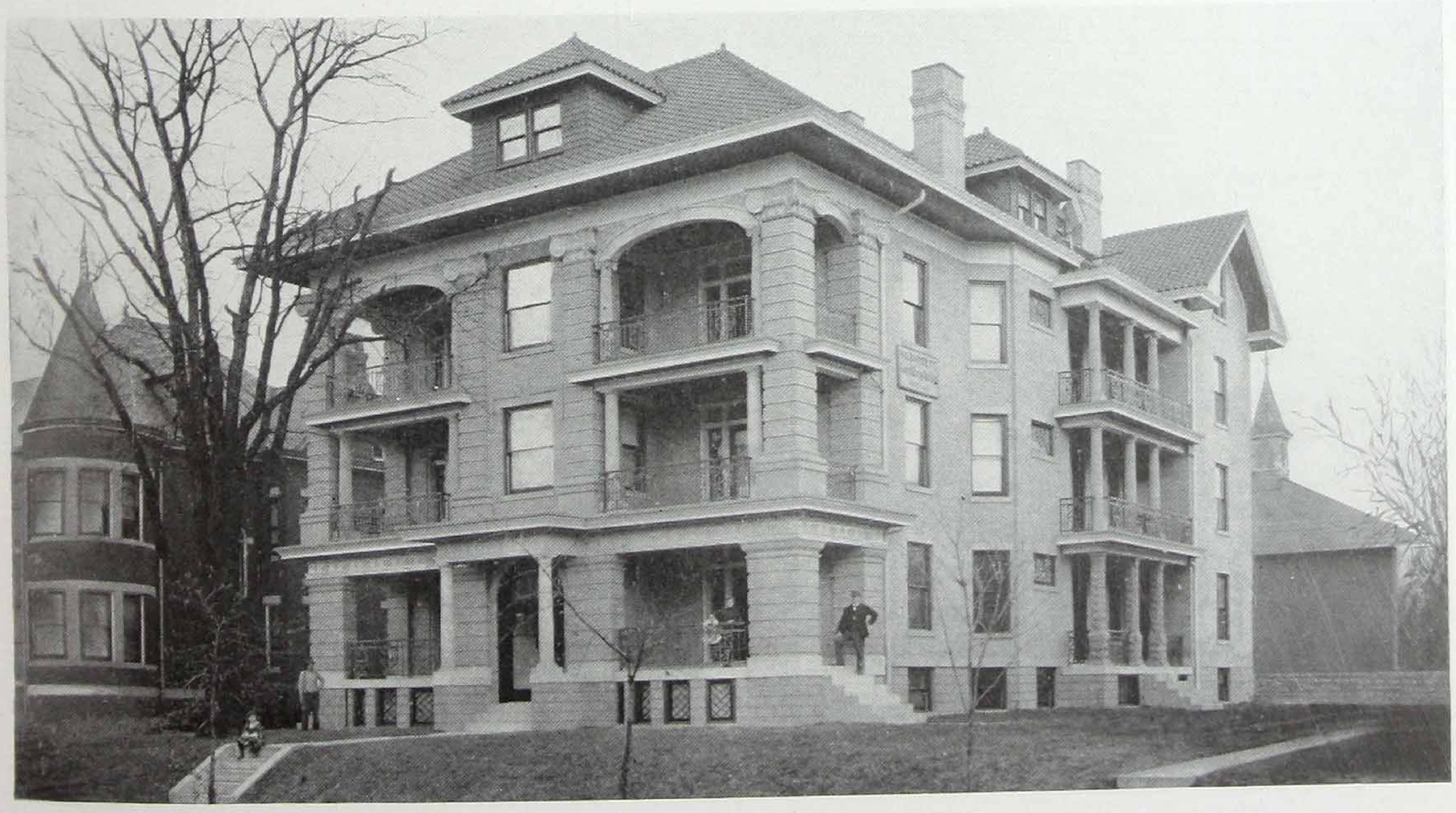
Atlanta Steam Heating Co.
Heating Contractors



ADELIN APARTMENTS, MILWAUKEE, WIS.

Brust, Phillips & Heimerl
Architects

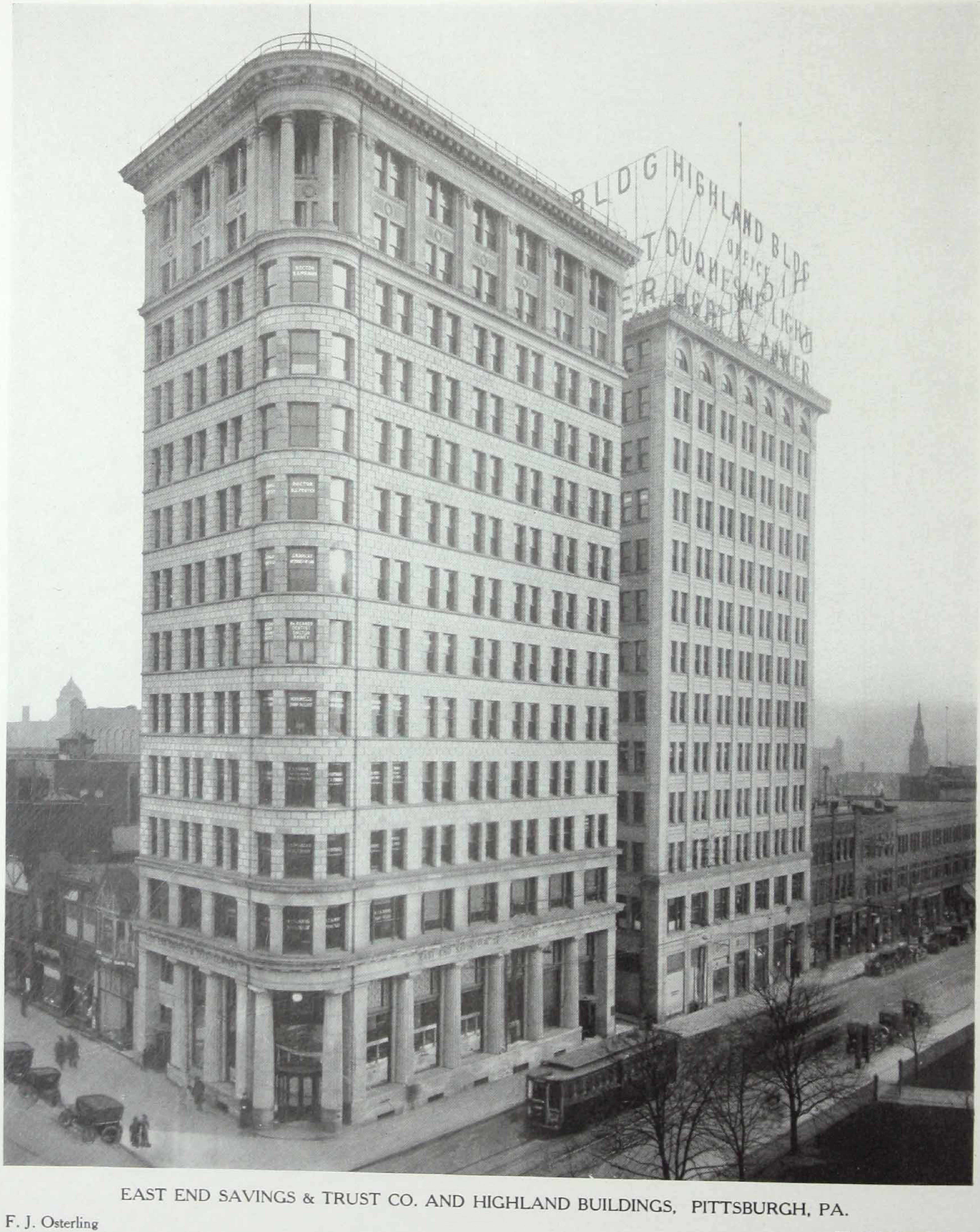
Anderson & Farris
Heating Contractors



PLAZA APARTMENTS, NEWPORT, KY.

W. L. Barrett
Architect

Henry Niemes
Heating Contractor


BLDG HIGHLAND BLDG
OFFICE
DUQUESNE LIGHT
POWER

EAST END SAVINGS & TRUST CO. AND HIGHLAND BUILDINGS, PITTSBURGH, PA.

F. J. Osterling
Architect

The McGuines Co.
Heating Contractors

OFFICE BUILDINGS

WHERE electric light and power for elevators and house pumps are furnished from an outside source, the heating of an office building can be done admirably by The Webster Modulation System of Steam Heating; low-pressure boilers being installed and steam carried at such a pressure as would ordinarily be used in a home.

The proper designing of the piping, arrangement of radiators and apportioning of the heating surfaces will insure perfect circulation of steam, removal of air and water from the radiators and satisfactory heating effect.

The possibility of controlling the amount of steam admitted to each unit and thus maintaining an even and satisfying temperature in each room should appeal to tenants in selecting offices, and the agent should have no trouble in renting all of his space at a higher rental than his neighbor whose building contains no such refinements.

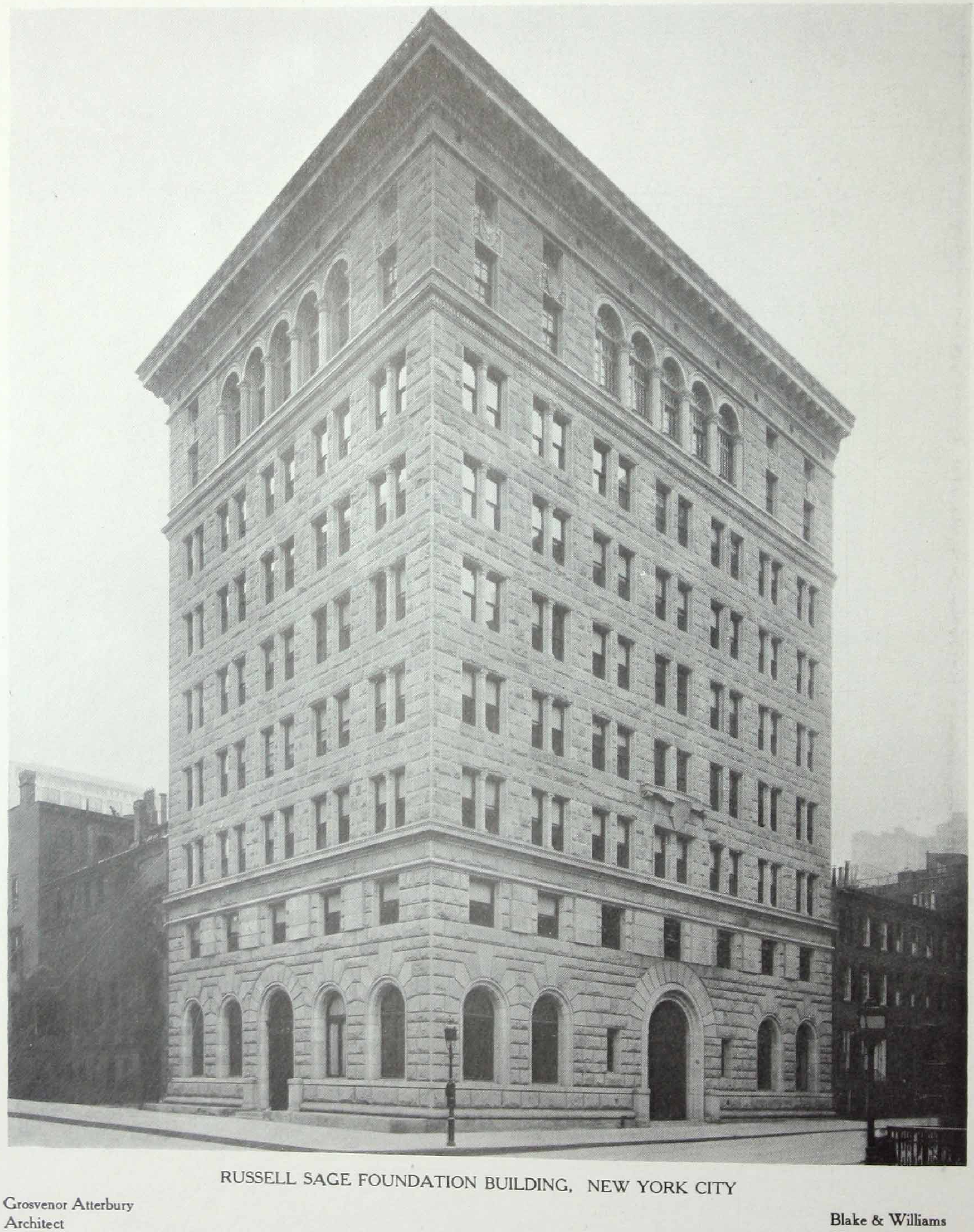
Where the building is provided with steam from an outside source, at measured rates, the economical features of The Webster Modulation System should appeal greatly to the owner.

See pages 22 and 23 describing and illustrating this type of apparatus.

When the office building is equipped with its own power plant, The Webster Modulation-Vacuum System is best adapted. Full particulars regarding this system will be furnished upon application.

Office buildings in all parts of the country are equipped with The Webster Modulation System, a few of these being illustrated on the following pages, while a list of others is given.

Berry & Riggins Office Building,	Camden,	New Jersey
Botsford Estate Building,	San Diego,	California
Brazil Trust Building,	Brazil,	Indiana
C. J. Smith Building,	Seattle,	Washington
Camden Fire Association,	Camden,	New Jersey
Conservative Life Building,	Wheeling,	West Virginia
Creswell Inv. Co.'s Block,	Pueblo,	Colorado



RUSSELL SAGE FOUNDATION BUILDING, NEW YORK CITY

Grosvenor Atterbury
Architect

Blake & Williams
Heating Contractors

OFFICE BUILDINGS—Continued

Denegre Building,	New Orleans,	Louisiana
Fall River Gas Works Office Bldg.,	Fall River,	Massachusetts
Fidelity Trust Co. Building,	Portland,	Maine
First National Bank Building,	Atlanta,	Georgia
First National Bank Building,	Escanaba,	Michigan
First National Bank Building,	Peoria,	Illinois
First National Bank Building,	Roanoke,	Virginia
Heard Investment Co. Building,	Jacksonville,	Florida
Huntington National Bank,	Huntington,	West Virginia
Intermediate Life Building,	Evansville,	Indiana
Isaacs Building,	Los Angeles,	California
J. P. Stevens Building,	Atlanta,	Georgia
James T. Wisdom Building,	Baker City,	Oregon
Joseph Mahowald Building,	Grand Forks,	South Dakota
Liberty Building,	Spokane,	Washington
Lowell Sun Building,	Lowell,	Massachusetts
Mary Gooding Building,	Rochester,	Minnesota
Mennonite Insurance Building,	Newton,	Kansas
Merchants' National Bank Building,	Richmond,	Virginia
Morton Building,	Wenatchee,	Washington
Peoples Bank Building,	Santa Cruz,	California
Press and Annex Building,	Portland,	Oregon
Reisch Building,	Springfield,	Illinois
Robson Pritchard Building,	Huntington,	West Virginia
Rosenbaum Building,	Meridian,	Mississippi
S. A. Esswein Building,	Columbus,	Ohio
Scollay Building,	Boston,	Massachusetts
Seattle Electric Co.'s Building,	Seattle,	Washington
Standard Oil Co.'s Building,	Indianapolis,	Indiana
Steeley Building,	Dayton,	Ohio
Union National Bank Building,	Columbia,	South Carolina

Before deciding upon your heating system consult us

GARRETT BUILDING, BALTIMORE, MD.

Wyatt & Nolting
Architects

Riggs, Distler & Stringer, Inc.
Heating Contractors

STEAM HEATING THE OFFICE BUILDING

NATIONAL STATE BANK, CAMDEN, N. J.

Davis & Davis
Architects

A. McClintock
Heating Contractor

SPRINGFIELD GAS LIGHT CO., SPRINGFIELD, MASS.

Winslow, Bigelow & Wadsworth
Architects

Wyckoff & Lloyd Co.
Heating Contractors

THE WEBSTER MODULATION SYSTEM

CITIZENS BANK BUILDING, SOUTH BEND, IND.

Freyermuth & Maurer
Architects

W. W. Sibley Co.
Heating Contractors

BANK OF EDWARDSVILLE, EDWARDSVILLE, ILL.

Clymer & Drischler
Architects

M. Desmond Mfg. Co.
Heating Contractors

NEW ENGLAND TELEPHONE AND TELEGRAPH BUILDING, SPRINGFIELD, MASS.

E. C. & G. C. Gardner
Architects

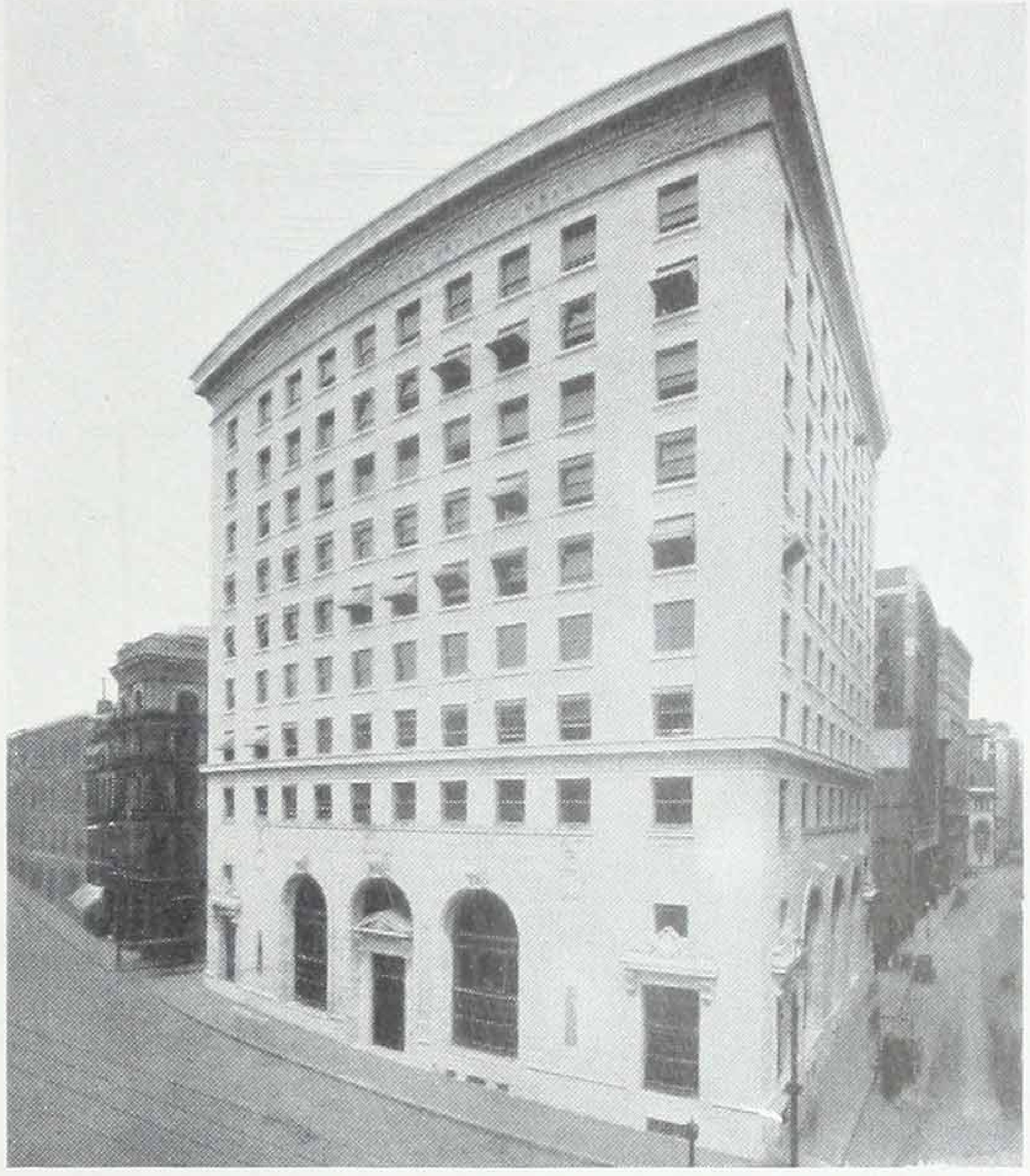
G. H. McClean
Heating Contractor

STEAM HEATING THE OFFICE BUILDING

NORTHAMPTON NAT'L BANK BLDG., EASTON, PA.

A. A. Ritcher
Architect

G. W. Beard Co.
Heating Contractors



BOSTON SAFE DEPOSIT & TRUST CO., BOSTON, MASS.

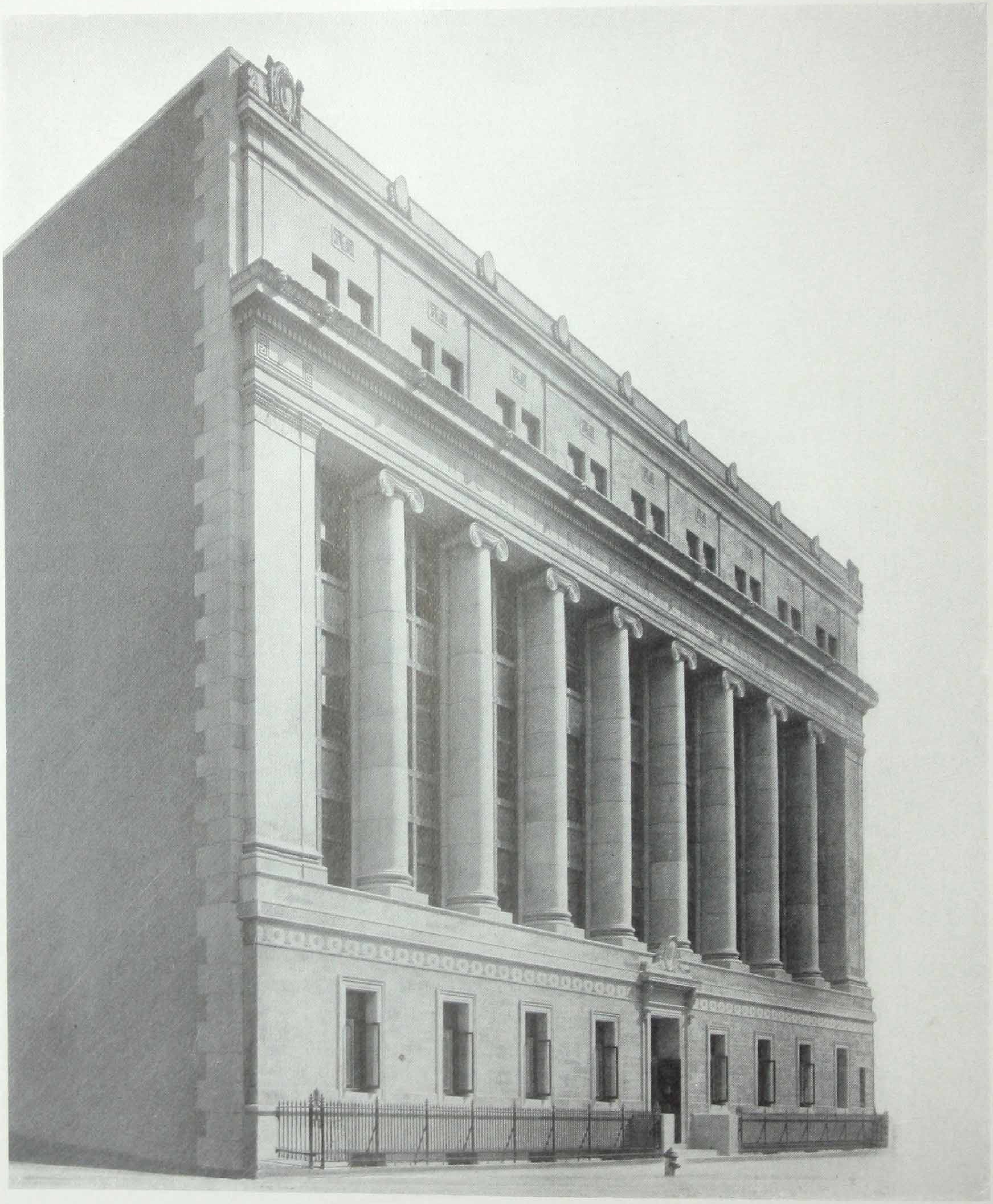
Shepley, Rutan & Coolidge
Architects

Buerkel & Co.
Heating Contractors

EMPORIA STATE BANK, EMPORIA, KAN.

J. H. Felt & Co.
Architects

Emporia Plumbing Co.
Heating Contractors



REGIS HIGH SCHOOL, NEW YORK CITY

Maginnis & Walsh
Architects

Alvard & Swift
Heating Contractors

STEAM HEATING THE EDUCATIONAL BUILDING

EDUCATIONAL BUILDINGS

THE stability of a nation depends largely upon the care with which the children are educated, and, as much of their early life is spent in class rooms during the months of cold weather, the evenness of the temperature and purity of air is of great import.

The Webster Modulation System of Steam Heating is perfectly adaptable to all types of buildings used for educational purposes.

Steam may be turned on or off by the movement of the handle around the dial of the supply valve. Only the heat required need be used, while all needed at any time is quickly available.

Perfect control, satisfactory heating and economy in fuel are assured.

A few of the educational buildings where The Webster Modulation System is in use are illustrated, while a partial list of others will be found below.

Alton Park High School,	Alton Park,	Tennessee
Boulevard Park School,	Spokane,	Washington
Bryn Mawr College,	Bryn Mawr,	Pennsylvania
Centre Street School,	Milton,	Pennsylvania
Consolidated District School,	Livermore,	Iowa
East Side School,	Camden,	New Jersey
Father Rawlinson School,	Brazil,	Indiana
Franklin High School,	Franklin,	Pennsylvania
Gordon College,	Barnesville,	Georgia
Harris County Training School,	South Houston,	Texas
High School,	Morgantown,	West Virginia
High School,	Norfolk,	Virginia
Laurel School,	Laurel,	Mississippi
Lawrence High School	Long Island,	New York
Leschi Schools,	Seattle,	Washington
Logan Avenue School,	Denver,	Colorado
Longfellow School,	Houston,	Texas
Perkasie High School,	Perkasie,	Pennsylvania
Wayne Township School,	Butler County,	Ohio

Before deciding upon your heating system consult us

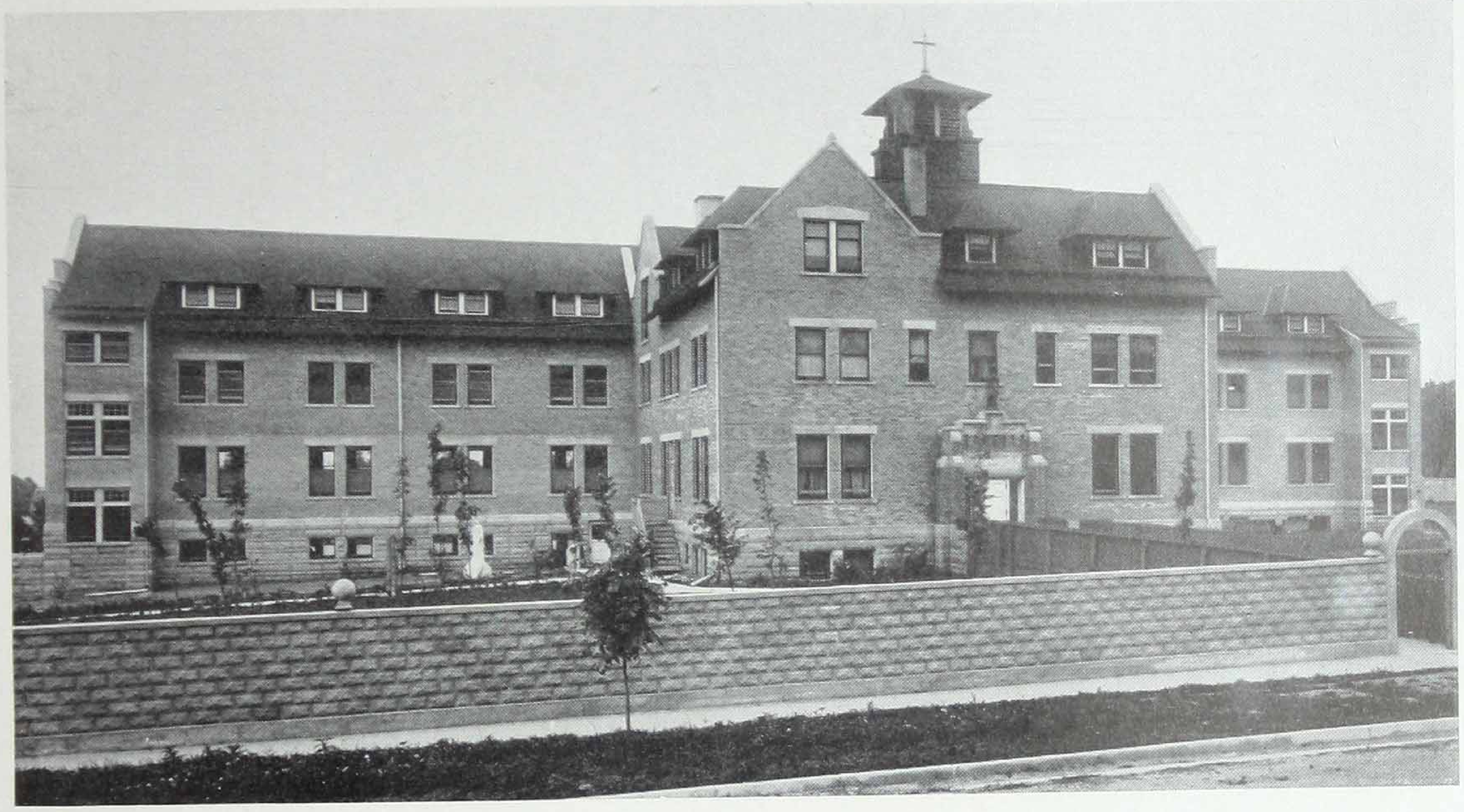
WELD HALL DORMITORY, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

WEBSTER HALL, PHILLIPS ACADEMY, EXETER, N. H.

Cram, Goodhue & Ferguson
Architects

Walworth, English & Flett Co.
Heating Contractors

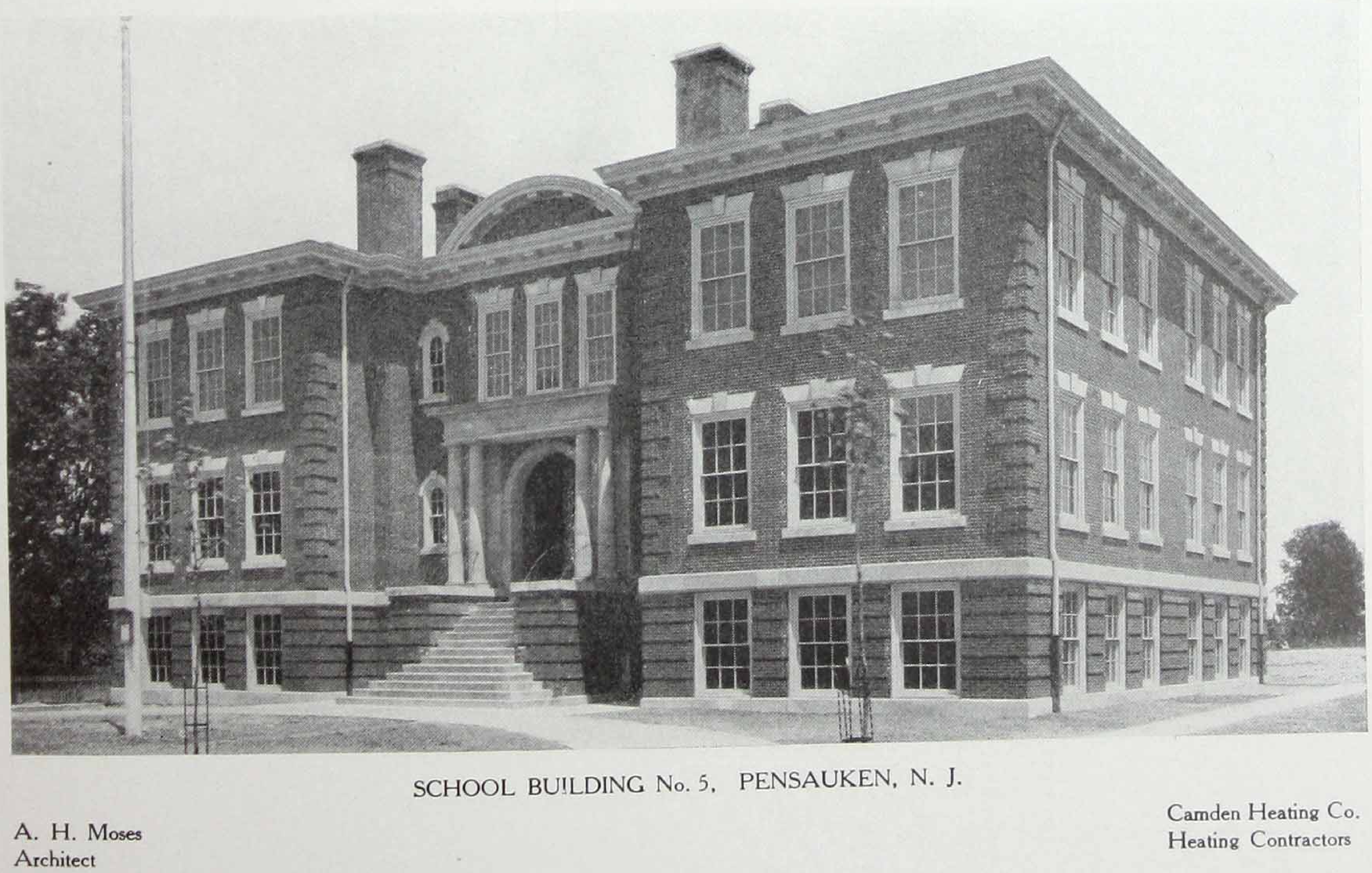
STEAM HEATING THE EDUCATIONAL BUILDING



CONVENT AND ACADEMY, SERVANTS OF MARY, CHEROKEE, IOWA

Wm. L. Steele
Architect

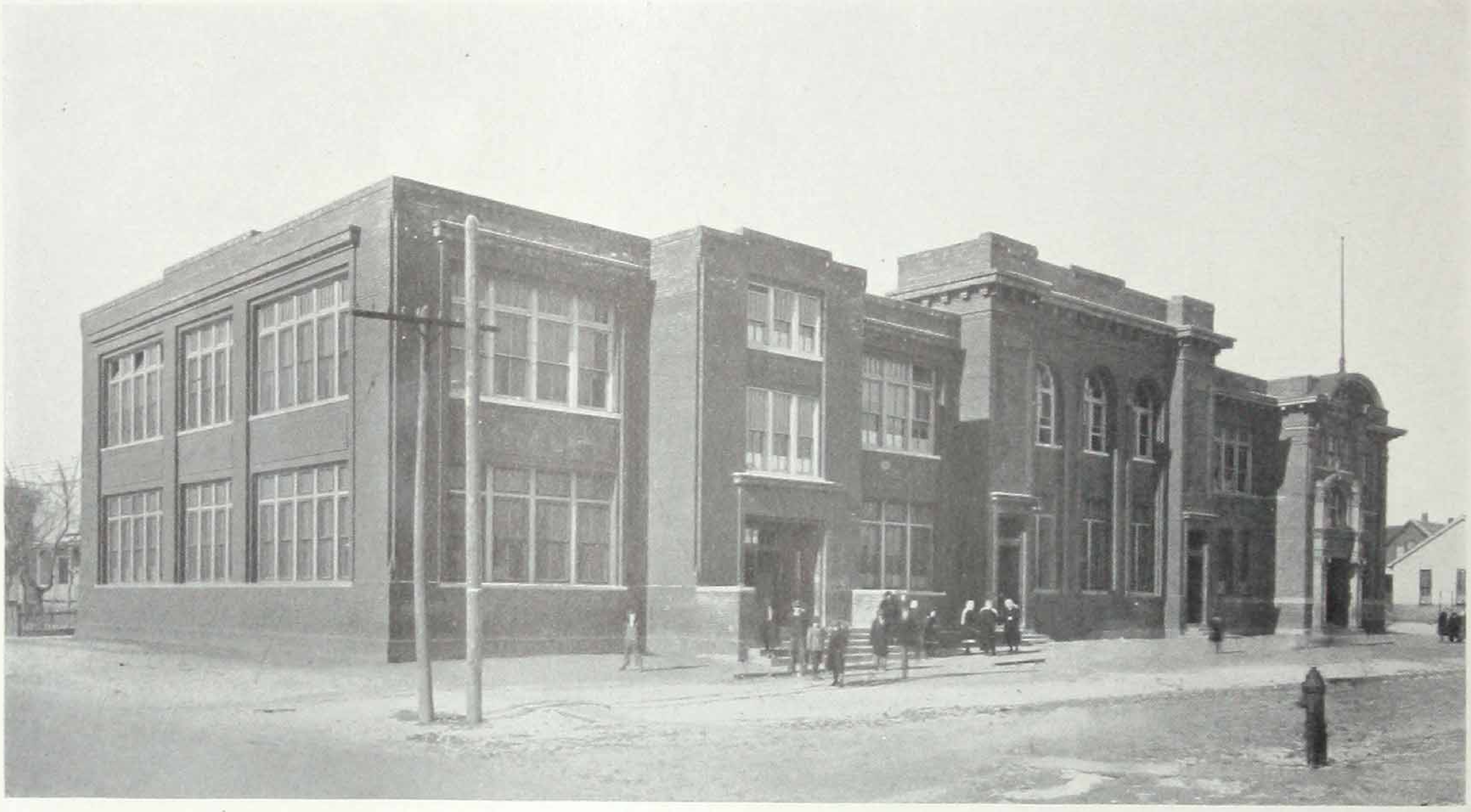
Swanson & Betsworth
Heating Contractors



SCHOOL BUILDING No. 5, PENSAUKEN, N. J.

A. H. Moses
Architect

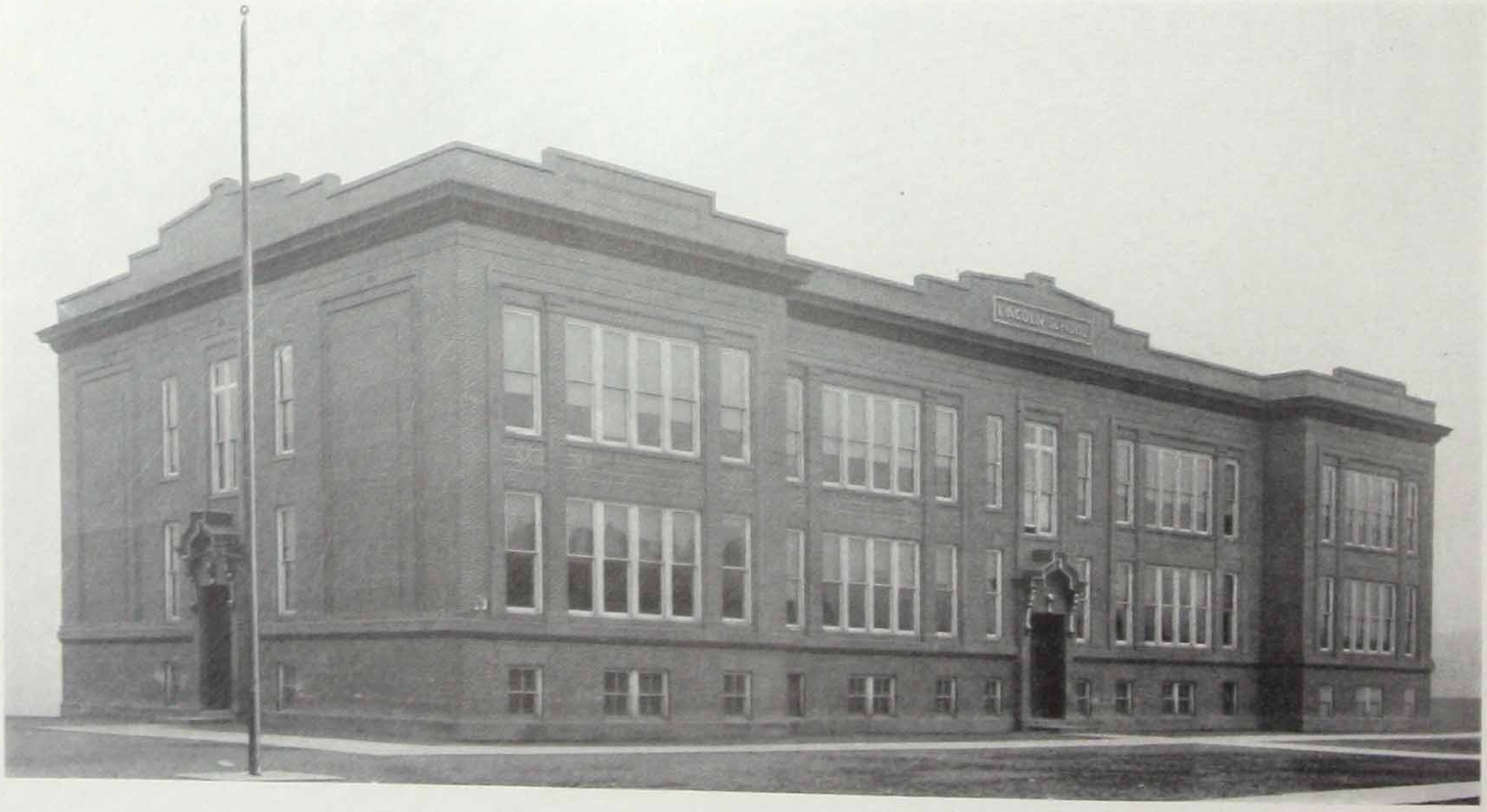
Camden Heating Co.
Heating Contractors



HEYWARD SCHOOL, LINCOLN, NEB.

Berlinghof & Davis
Architects

L. W. Pomerene Co.
Heating Contractors

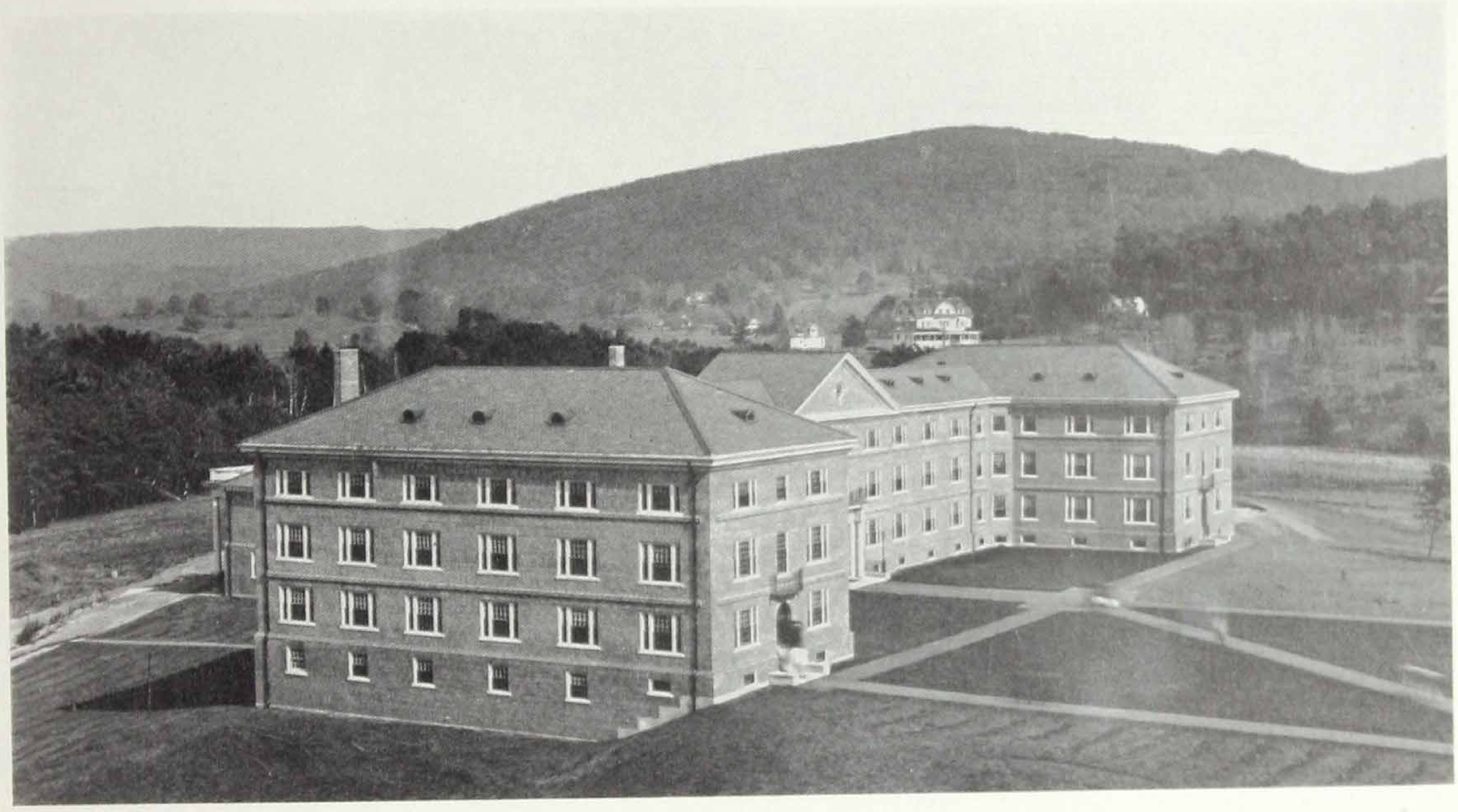


LINCOLN SCHOOL, NANTICOKE, PA.

Reilly & Schroeder
Architects

G. L. Turner & Co.
Heating Contractors

STEAM HEATING THE EDUCATIONAL BUILDING



GOULD HALL, NORTHFIELD SEMINARY, EAST NORTHFIELD, MASS.

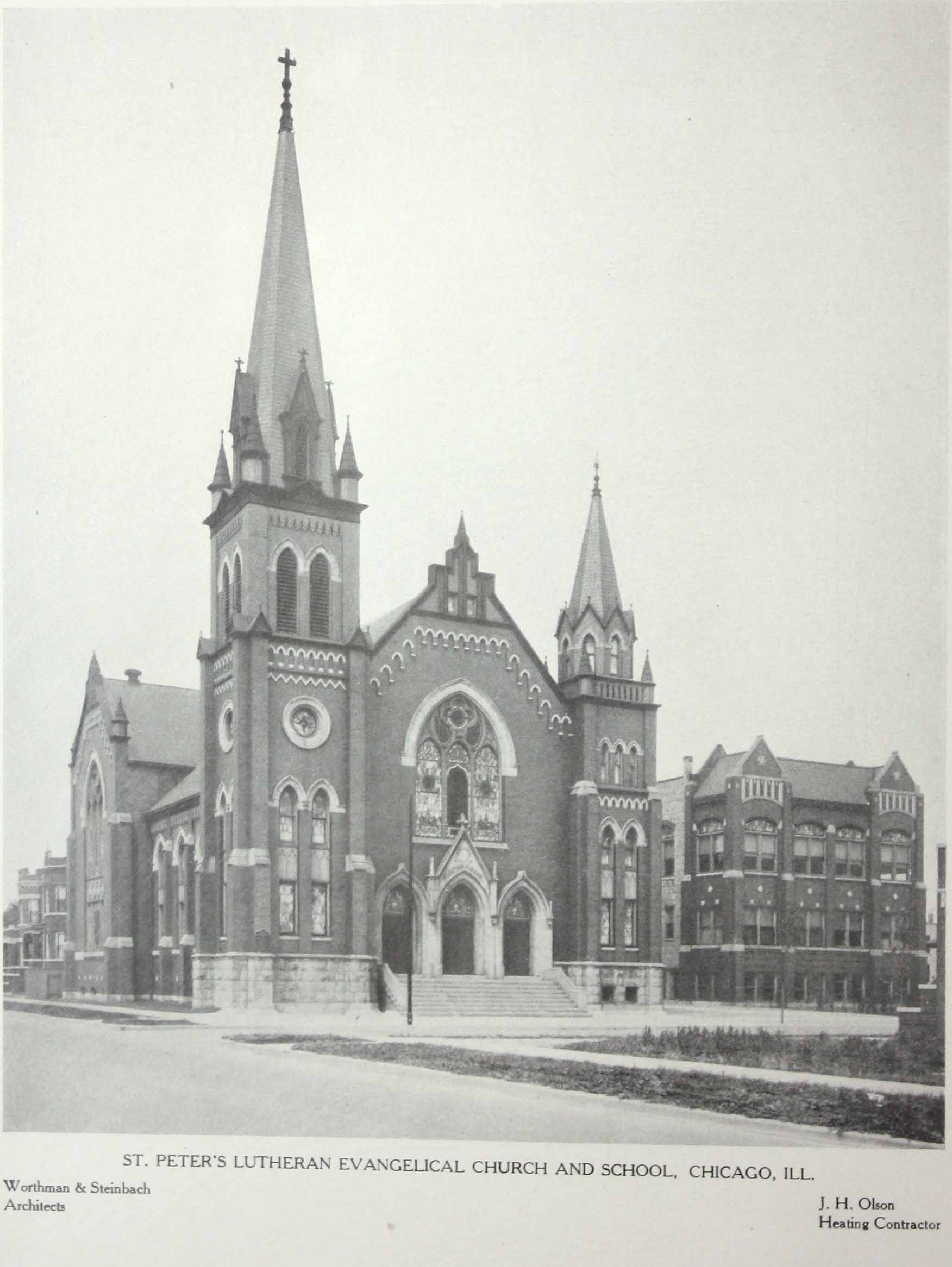
Shepley, Rutan & Coolidge
Architects

Cleghorn Co.
Heating Contractors

LINCOLN STREET SCHOOL, SPRINGFIELD, MASS.

E. C. & G. C. Gardner
Architects

G. H. McClean
Heating Contractor



ST. PETER'S LUTHERAN EVANGELICAL CHURCH AND SCHOOL, CHICAGO, ILL.

Worthman & Steinbach
Architects

J. H. Olson
Heating Contractor

CHURCHES AND RELIGIOUS INSTITUTIONS

THE Webster Modulation System has been installed in churches and religious institutions of almost every denomination, with the same satisfying results.

The large cathedral or the wayside chapel can be successfully equipped with this method of heating, and the quick response after starting the fire, and the low pressure under which circulation is established and maintained, together with the simplicity of control, make possible the operation of The Webster Modulation System without any special assistance when our instructions are followed.

A committee entrusted with the selection of the heating apparatus for a church or religious institution will do well to investigate the claims made for The Webster Modulation System of Steam Heating.

The illustrations and the following list of installations show the general adoption of The Webster Modulation System in this class of buildings.

Church of Assumption,	Evansville,	Indiana
Church of the Sacred Heart	Pueblo,	Colorado
Corpus Christi R. C. Church,	Dayton,	Ohio
First Christian Church,	East St. Louis,	Illinois
First Church Christ, Scientist,	Minneapolis,	Minnesota
Fourth Presbyterian Church,	Greenville,	South Carolina
Kenney Presbyterian Home,	Seattle,	Washington
Simpson M. E. Church,	Philadelphia,	Pennsylvania
St. John's Church and School,	Indianapolis,	Indiana
St. Mary's Church and Rectory,	Richmond,	Indiana
Western Theological Seminary	Pittsburgh,	Pennsylvania

Before deciding upon your heating system consult us

HOLY INNOCENT CHURCH. CHICAGO, ILL.

Worthman & Steinbach
Architects

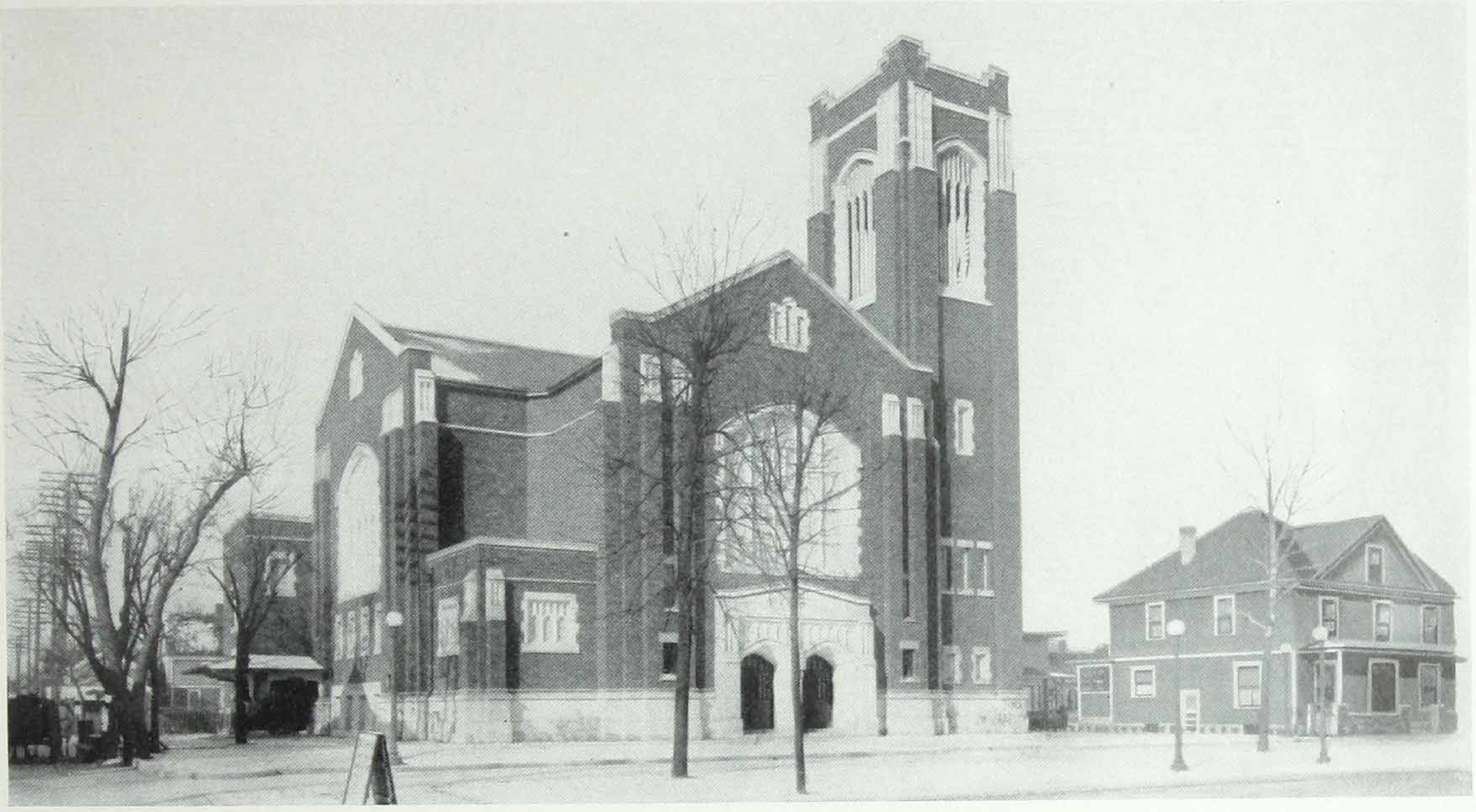
Rigby & Clausky
Heating Contractors

ST. FRANCIS DE SALES CHURCH, PHILADELPHIA, PA.

H. D. Dagit
Architect

P. Gormly Co.
Heating Contractors

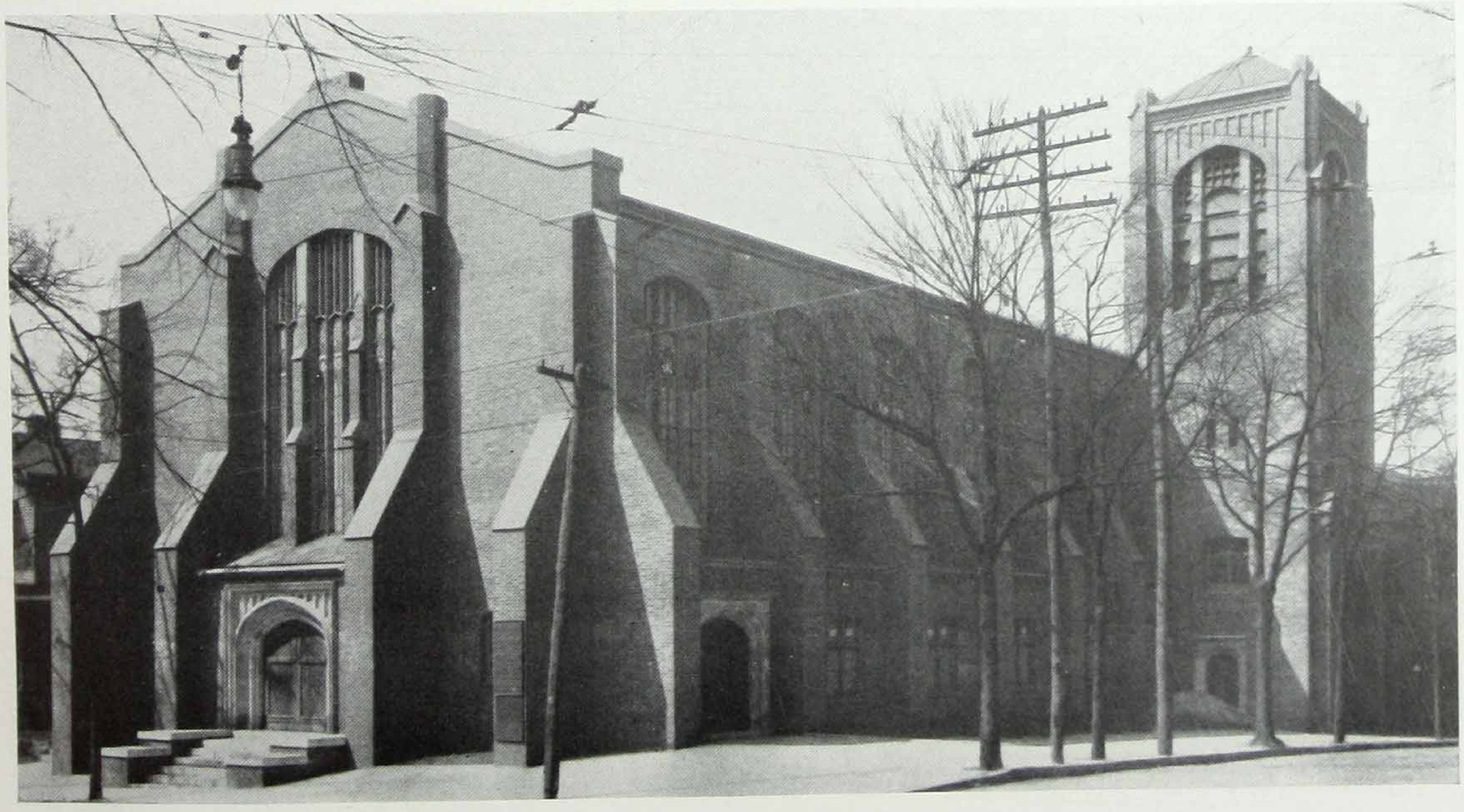
STEAM HEATING RELIGIOUS BUILDINGS



FIRST M. E. CHURCH, SOUTH BEND, IND.

Badgley & Nicklas
Architects

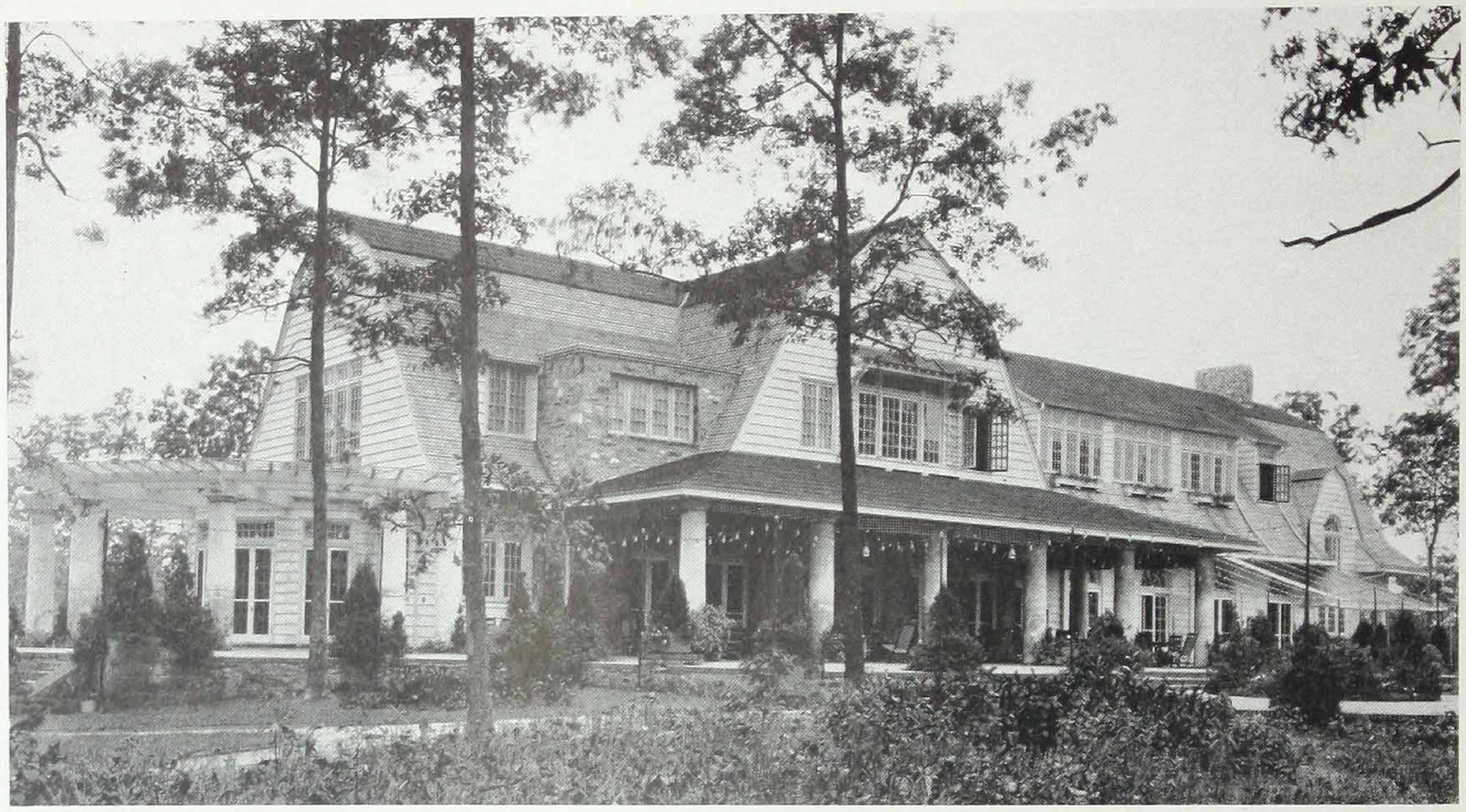
Wm. H. Burke
Heating Contractor



TRINITY M. E. CHURCH, SOUTH, ATLANTA, GA.

W. T. Downing
Architect

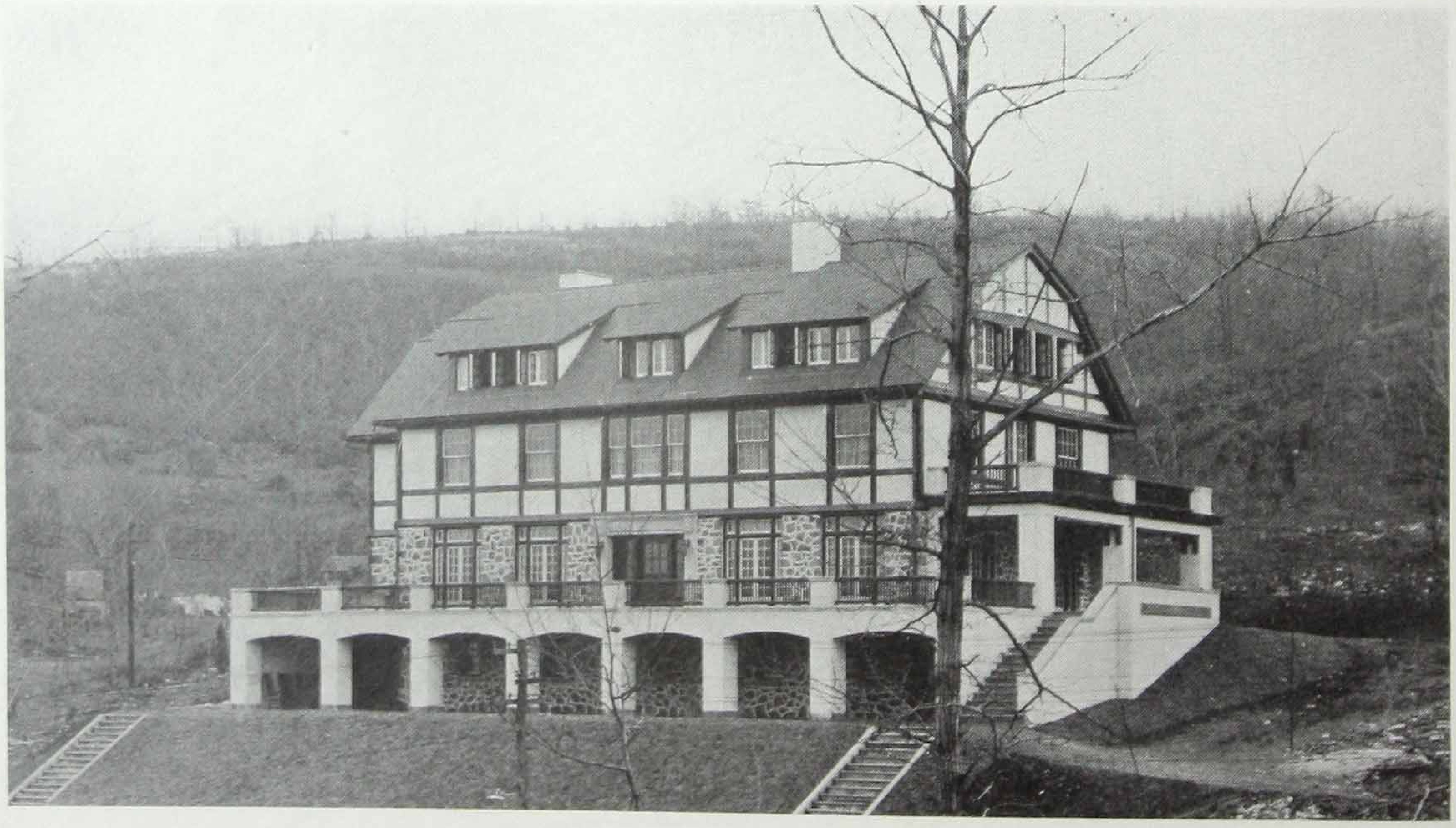
Farrell Heating & Plumbing Co.
Heating Contractors



DRUID HILLS GOLF CLUB, ATLANTA, GA.

Edward F. Dougherty
Architect

D. W. Yarbrough
Heating Contractor



DELTA TAU DELTA FRATERNITY BUILDING, LEHIGH UNIVERSITY, SOUTH BETHLEHEM, PA.

Leh & Bitting
Architects

R. Barnes & Sons
Heating Contractors

STEAM HEATING THE CLUB OR FRATERNAL BUILDING

CLUBS AND FRATERNAL BUILDINGS

PERFECT comfort and quiet are demanded in certain parts of club, lodge and association buildings, for it is there one goes to find pleasure, instruction and amusement. In order to fully enjoy all of the privileges, there must be nothing to disturb or annoy.

Rest rooms, sleeping apartments, class rooms, etc., must be heated to just the right temperature, and in order to permit variation so as to suit each individual's desire, the heating apparatus must be constructed with this object in view.

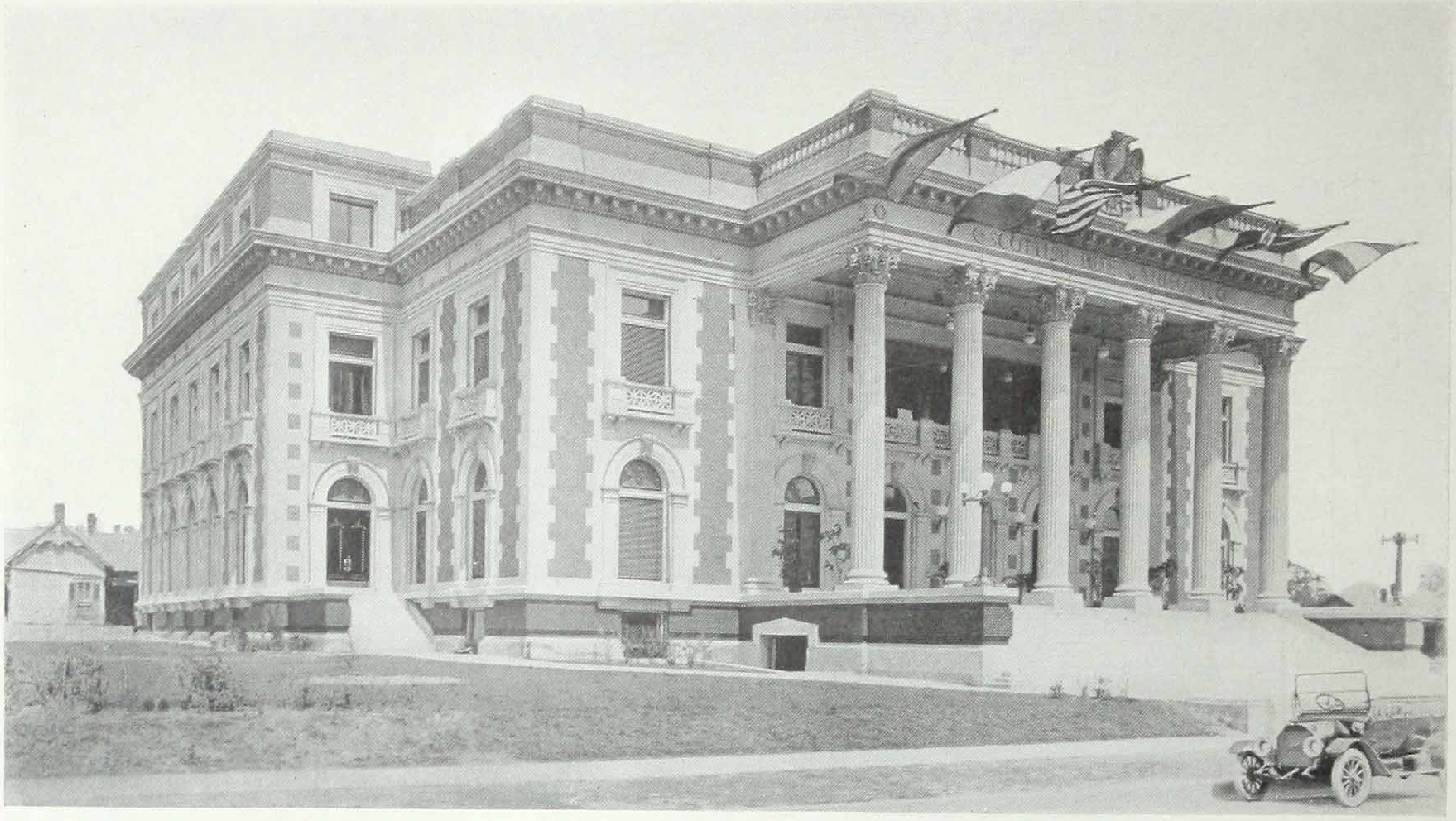
The control of the proper quantity of steam for each radiator cannot be so perfectly accomplished by any other heating system than The Webster Modulation System.

The low cost of maintenance and fuel appeals strongly to the committee having the management in charge, and with The Webster Modulation System in use the results are most satisfactory.

A few representative installations are illustrated or listed, and it will be noted The Webster Modulation System is much in favor for heating buildings of this type.

B. P. O. E.,	Bristol,	Pennsylvania
Brookhaven Country Club,	Atlanta,	Georgia
Calhoun Commercial Club,	Duluth,	Minnesota
Columbia Y. M. C. A.,	Columbia,	South Carolina
Knights of Columbus Building,	Denver,	Colorado
Lehigh Country Club,	Rittersville,	Pennsylvania
Masonic Temple,	Bloomington,	Illinois
Masonic Temple,	Champaign,	Illinois
Masonic Temple,	Ft. Dodge,	Iowa
Newsboys' Home,	Pittsburgh,	Pennsylvania
Philadelphia Turngemeinde,	Philadelphia,	Pennsylvania
Sigma Nu Chapter House,	Lafayette,	Indiana
Y. M. C. A.,	Gary,	Indiana
Y. M. C. A.,	Norfolk,	Virginia
Y. W. C. A.,	Champaign,	Illinois

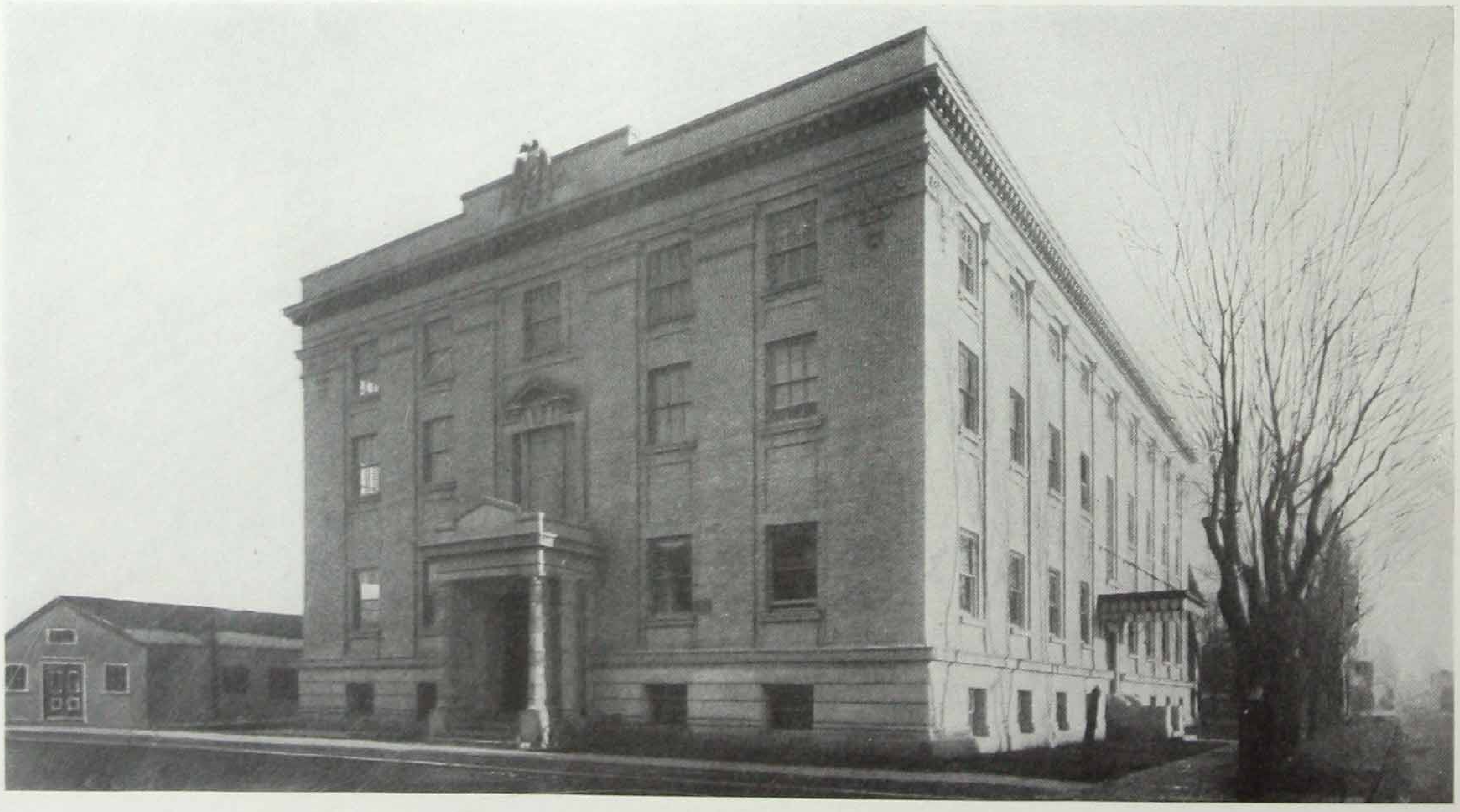
Before deciding upon your heating system consult us



SCOTTISH RITE CATHEDRAL, DALLAS, TEXAS

Hubbell & Greene
Architects

Walter Donovan
Heating Contractor



MASONIC TEMPLE, GRAND FORKS, N. D.

DeReiner & Wallis
Architects

Spriggs Bros.
Heating Contractors

STEAM HEATING THE CLUB OR FRATERNAL BUILDING

Y. M. C. A. BUILDING, LA PORTE, IND.

Shattuck & Hussey
Architects

Paul J. Dolan
Heating Contractor

Y. M. C. A. BUILDING, BOSTON, MASS.

Shepley, Rutan & Coolidge
Architects

Buerkel & Co.
Heating Contractors

ST. JOSEPH HOSPITAL, MISHAWAKA, IND.

Hill & Woltersdorf
Architects

Sheridan & Chapman
Heating Contractors

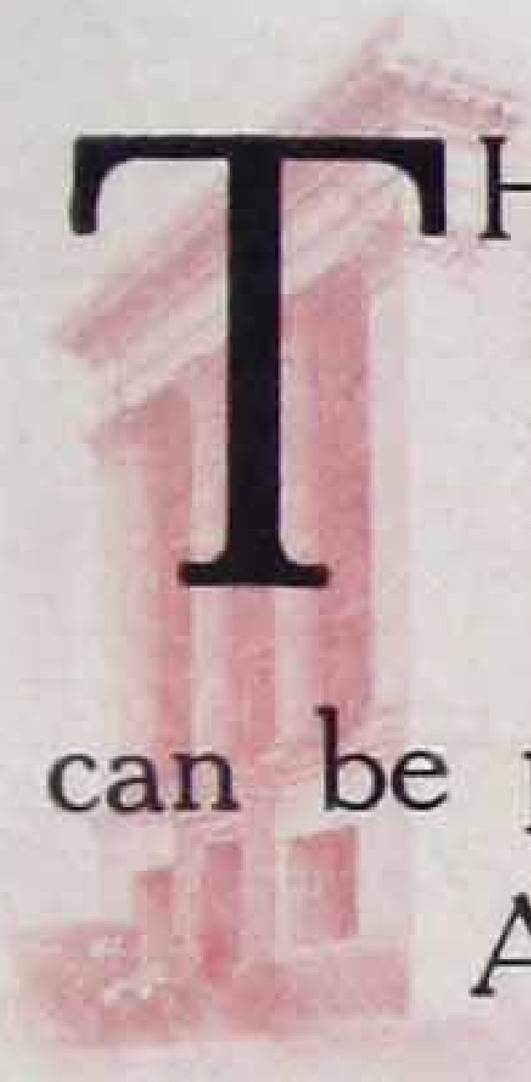
WEST SUBURBAN HOSPITAL, OAK PARK, ILL.

E. E. Roberts and Meyer J. Sturm
Architects

Wm. Lingenfelter
Heating Contractor

STEAM HEATING THE HOSPITAL OR SANATORIUM

HOSPITALS AND SANATORIUMS



THE most exacting demands upon a heating system are found in buildings devoted to the care of the sick. The modern hospital should be equipped with the best type of heating apparatus that can be procured.

Absolute quiet must prevail throughout such a building; quick response in time of emergency and the means to maintain varying temperatures in different wards are essential.

All of these conditions are made possible by the installation of The Webster Modulation System of Steam Heating.

Where a power plant is to be installed, we have additional means to effect comfort and economy, and we are at the service of those interested to consult upon the best methods of applying our apparatus.

The following illustrations and partial list of hospitals and sanatoriums equipped with The Webster Modulation System cannot but impress one with its adaptability to this particular type of building.

Aurora Hospital,	Aurora,	Illinois
Blackhawk County Home,	Waterloo,	Iowa
Dr. Branton's Hospital,	Willmar,	Minnesota
City Park Hospital,	Mason City,	Iowa
City Poor Farm and Hospital,	Marshalsea,	Pennsylvania
Cooper Hospital Out Patient Building,	Camden,	New Jersey
Contagious Hospital,	Duluth,	Minnesota
Detention Hospital,	South Bend,	Indiana
Emergency Hospital,	Wheeling,	West Virginia
Fresh Air Hospital,	Chicago,	Illinois
Millville Hospital,	Millville,	New Jersey
Monongahela Memorial Hospital,	Monongahela City,	Pennsylvania
State Hospital for Contagious Disease,	Denver,	Colorado
Walker Sanitarium,	Evansville,	Indiana

Before deciding upon your heating system consult us

BROKAW HOSPITAL, NORMAL, ILL.

A. L. Pillsbury
Architect

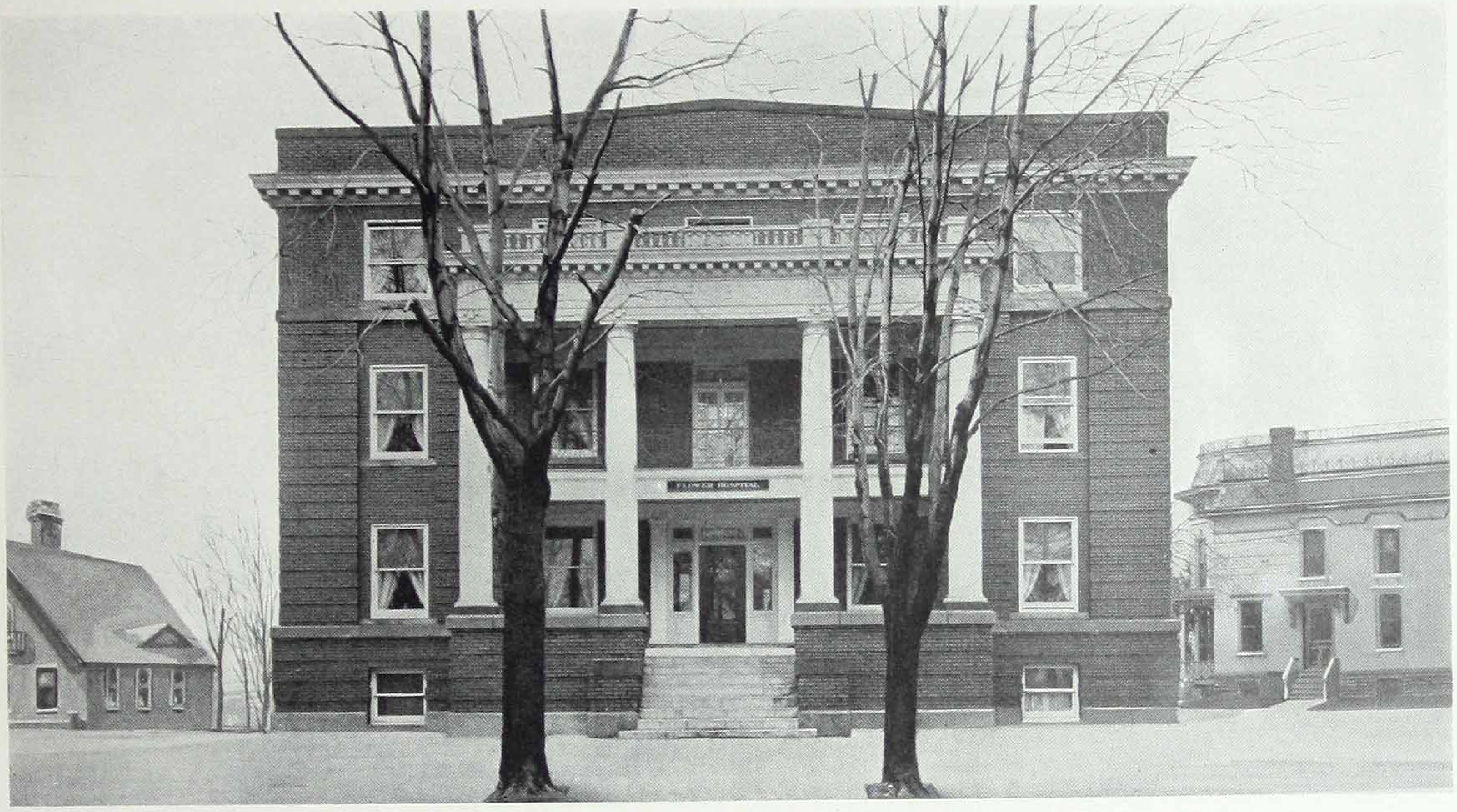
Lewis & Kitchen
Heating Contractors

REX HOSPITAL, RALEIGH, N. C.

Barrett & Thompson
Architects

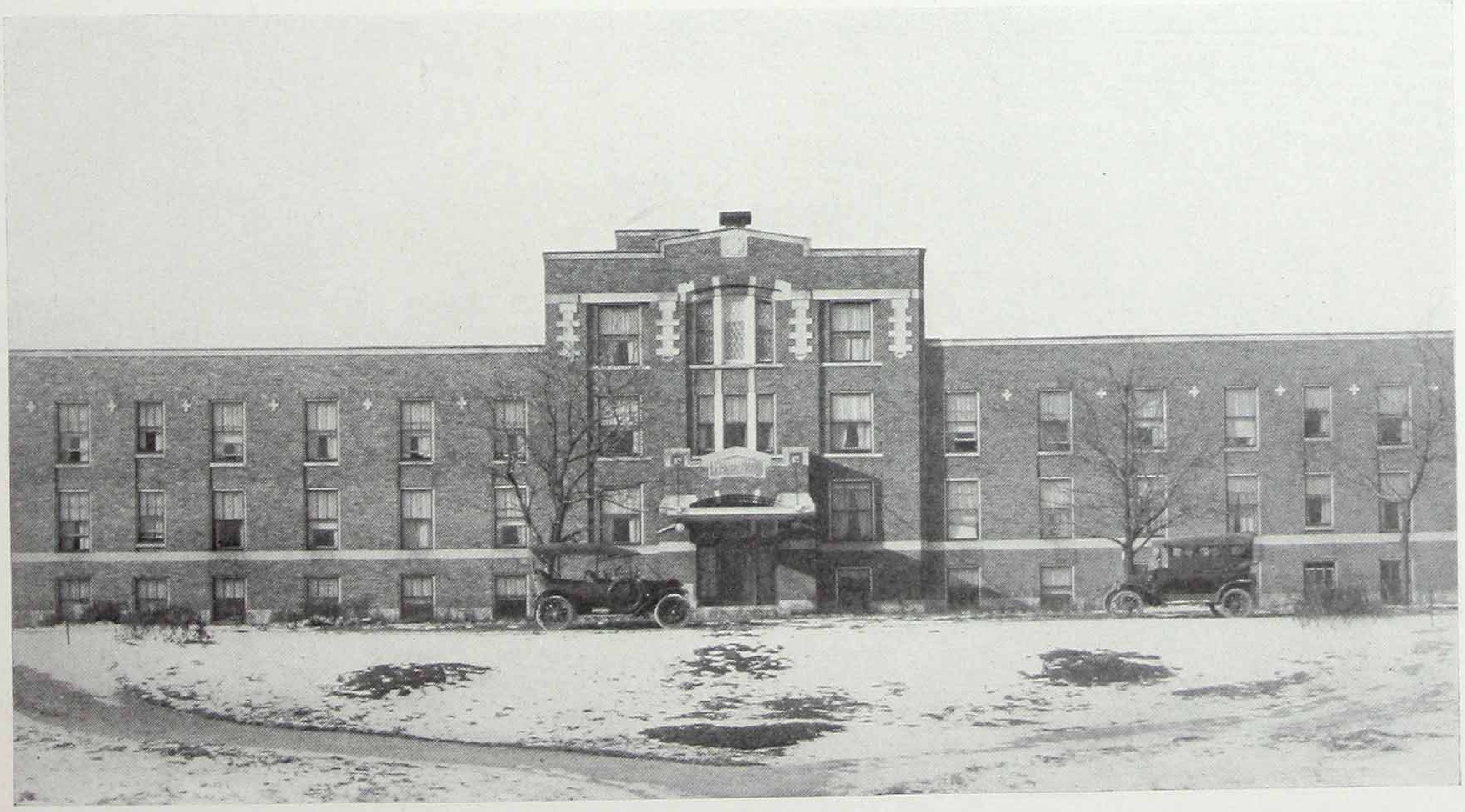
American Machine & Mfg. Co.
Heating Contractors

STEAM HEATING THE HOSPITAL OR SANATORIUM



FLOWER HOSPITAL, TOLEDO, OHIO

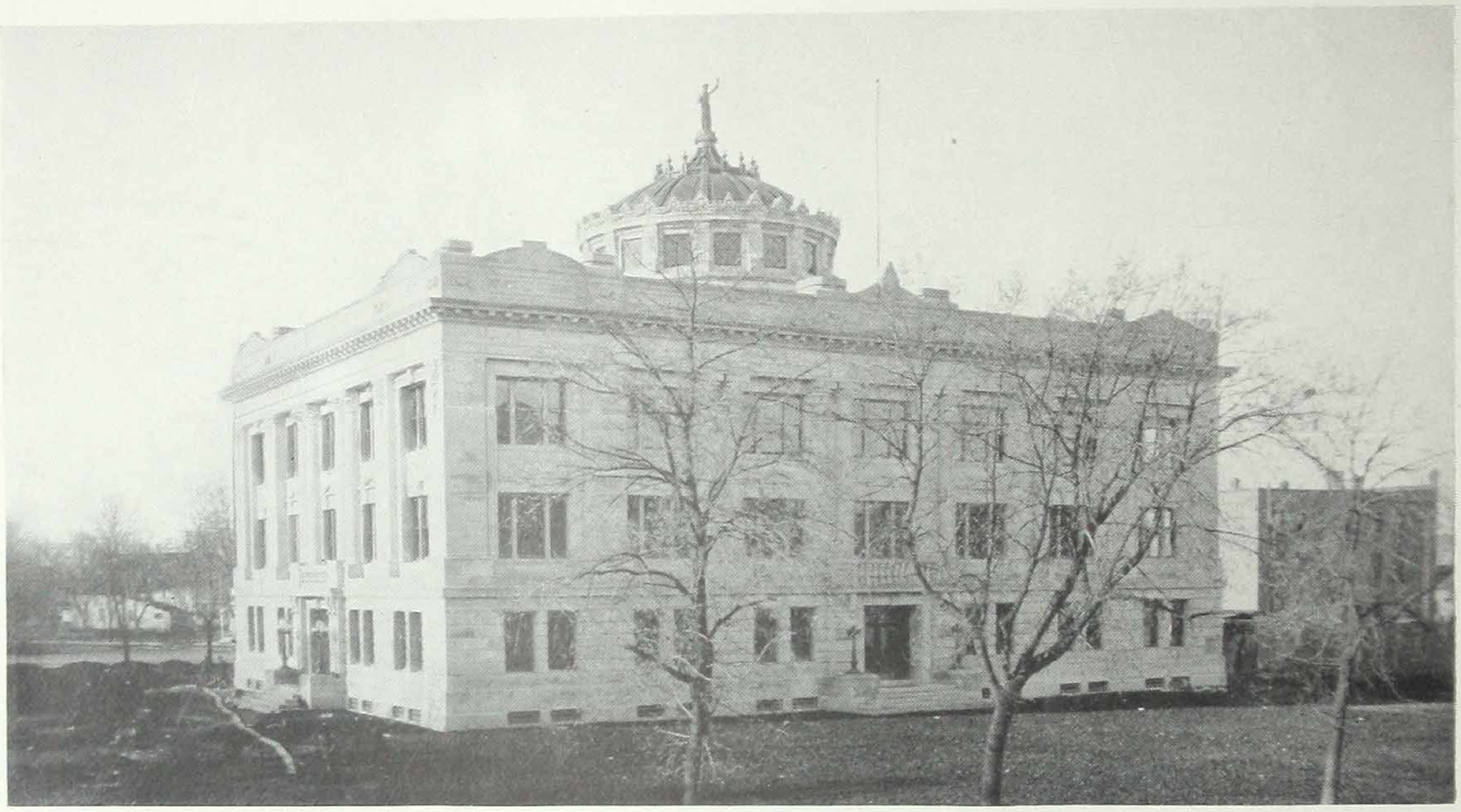
Eagan Bros.
Heating Contractors



ELKHART GENERAL HOSPITAL, ELKHART, IND.

E. Hill Turnock
Architect

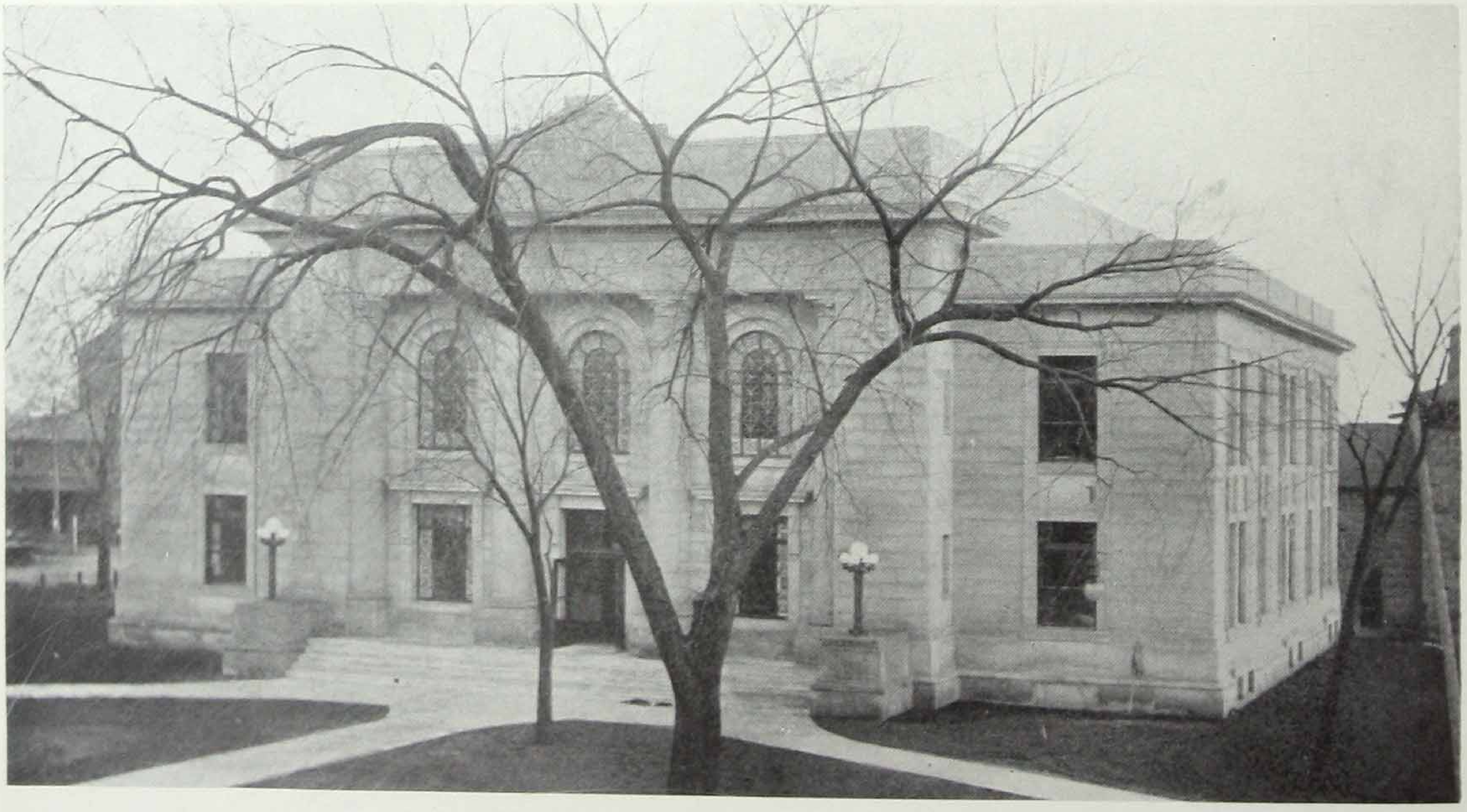
Lewis & Kitchen
Heating Contractors



GRAND FORKS COUNTY COURT HOUSE, GRAND FORKS, N. D.

Buechner & Orth
Architects

Spriggs Bros.
Heating Contractors



GRUNDY COUNTY COURT HOUSE, MORRIS, ILL.

J. W. Royer
Architect

Wm. Schohr
Heating Contractor

STEAM HEATING THE PUBLIC BUILDING

PUBLIC BUILDINGS, BUSINESS BLOCKS, COMMERCIAL HOUSES

THAT the reader may be impressed with the fact that The Webster Modulation System is adaptable to practically every type of building, a few pages have been devoted to the illustration of those buildings which may not come directly under the headings previously referred to.

Municipal, County and State Buildings, Stores, Lofts, Salesrooms, Theatres and place of exhibition and amusement, all may be heated economically and comfortably by this modern method.

No longer is it necessary to suffer from either insufficient or too much heat, for The Webster Modulation System of Steam Heating has marked flexibility to meet varying weather conditions.

Where a power plant is installed in connection with a building, The Webster Modulation-Vacuum and Hylo Systems would be adaptable, and we prefer to have you consult us before definitely selecting your heating apparatus. Our twenty-seven years of engineering experience in the science of heating enables us to guide you in the right direction.

In addition to the illustrations the following list of installations shows how universally The Webster Modulation System has been adopted.

Adams Co. Court House,	La Crosse,	Wisconsin
Alabama State Capitol (Left Wing),	Montgomery,	Alabama
Bucks County Jail,	Doylestown,	Pennsylvania
C. A. Dorney Furniture Co.,	Allentown,	Pennsylvania
C. A. Hibbard Store Bldg.,	Colorado Springs,	Colorado
Calcasieu Parish Court House,	Lake Charles,	Louisiana
Campbell Co. Court House,	Newport,	Kentucky
Carnegie Library, Greenlake,	Seattle,	Washington
Colonial Theatre,	Dayton,	Ohio
Ciralsky Theatre,	South Bend,	Indiana
Crystal Falls City Hall,	Crystal Falls,	Michigan

McGILL STORE BUILDING, SOUTH BEND, IND.

Austin & Schamblean
Architects

Thos. Williams
Heating Contractor

MURRAY-SMITH BUILDING, WILKES-BARRE, PA.

Welsh, Sturtevant & Poggi
Architects

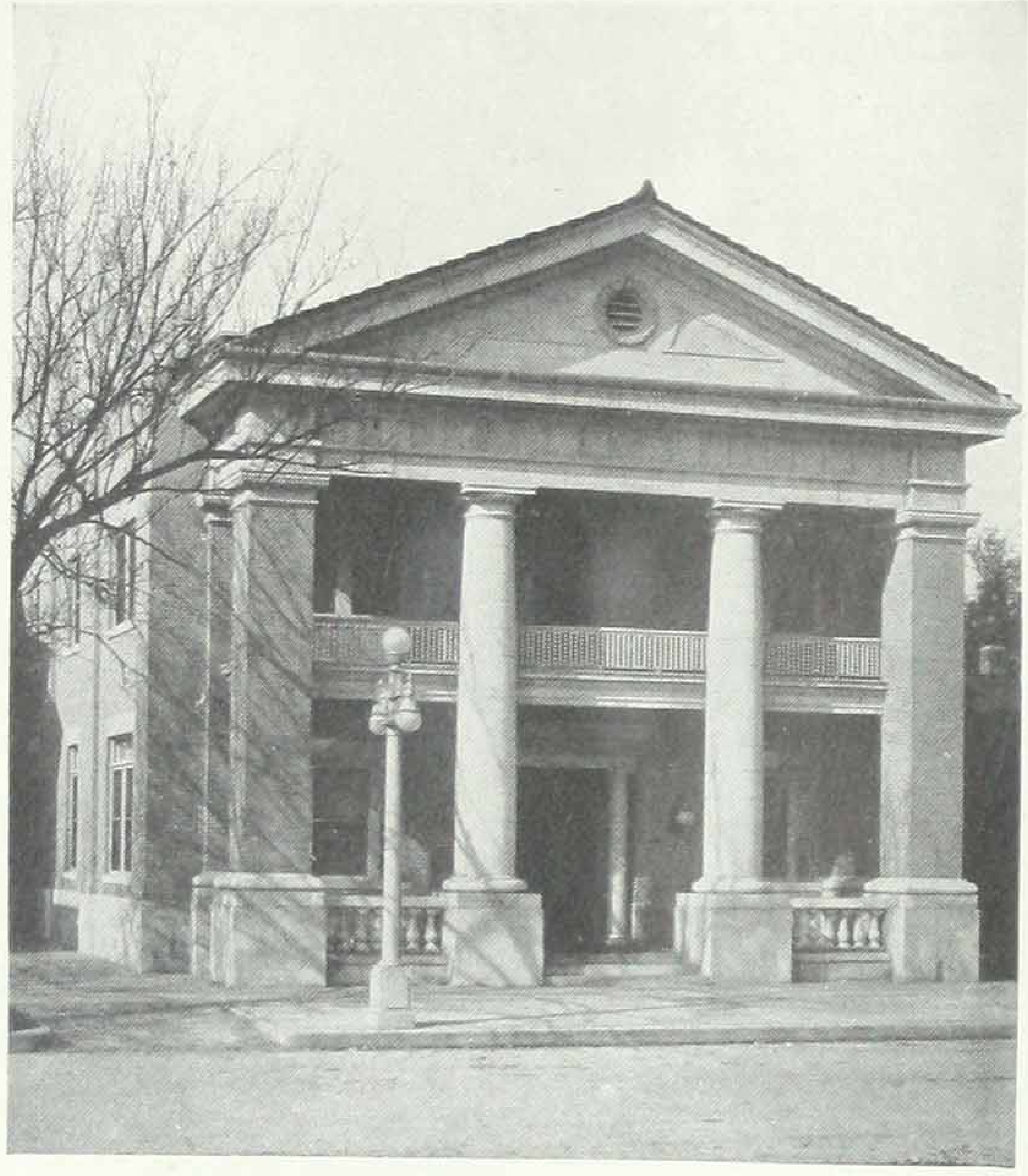
J. R. Steinhauer & Co.
Heating Contractors

PUBLIC BUILDINGS, BUSINESS BLOCKS, COMMERCIAL HOUSES—Continued

Delft Theatre,	Munsing,	Michigan
Farmers State Bank,	Monticello,	Indiana
Fleishman's Bakery,	Philadelphia,	Pennsylvania
Fifth Street Engine House,	Los Angeles,	California
First National Bank,	Glenwood Springs,	Colorado
First Precinct Police Station,	Norfolk,	Virginia
Indiana County Court House,	Indiana,	Pennsylvania
Lutheran Publishing Co.,	Decorah,	Iowa
Maule Building,	Philadelphia,	Pennsylvania
Miners National Bank,	Ishpeming,	Michigan
Northern Trust Co.,	Philadelphia,	Pennsylvania
Ohio County Court House,	Wheeling,	West Virginia
Oklahoma Iron Works,	Tulsa,	Oklahoma
Petersburg Benevolent Mechanics Assn. Bldg. and Mechanics Inst. Building,	Petersburg,	Virginia
Public Library,	Wheeling,	West Virginia
Quaker Creamery Co.,	Minneapolis,	Minnesota
Second National Bank,	Towson,	Maryland
Soldiers' Home Headquarters,	Los Angeles,	California
Springfield Daily News Co,,	Springfield,	Ohio
St. Vincent's Orphanage,	Philadelphia,	Pennsylvania
Star Building,	Terre Haute,	Indiana
Stifel Department Store,	Wheeling,	West Virginia
Store Bldg., House of Crane,	Indianapolis,	Indiana
Telephone Building,	Fort Dodge,	Iowa
West Seattle Branch Library,	Seattle,	Washington
Wall Rope Works,	New York,	New York
Wheeling City Hall,	Wheeling,	West Virginia

Before deciding upon your heating system consult us

THE WEBSTER MODULATION SYSTEM



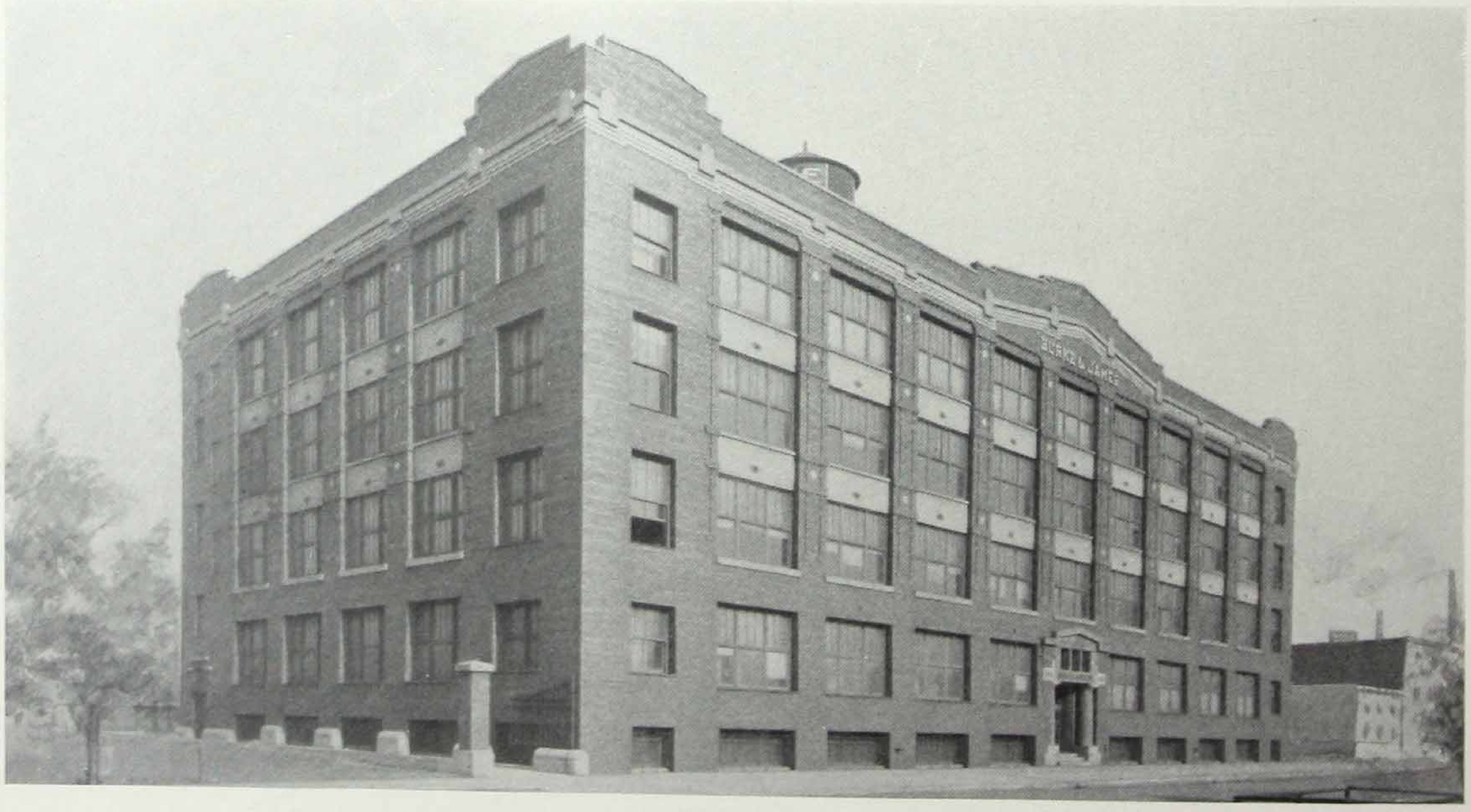
I. W. GILL BUILDING, WICHITA, KAN.

R. R. Moore Plumbing & Heating Co.
Heating Contractors

L. B. HARRISON MEM. HOTEL, CINCINNATI, OHIO

G. W. Drach
Architect

The Oliver Schlemmer Co.
Heating Contractors

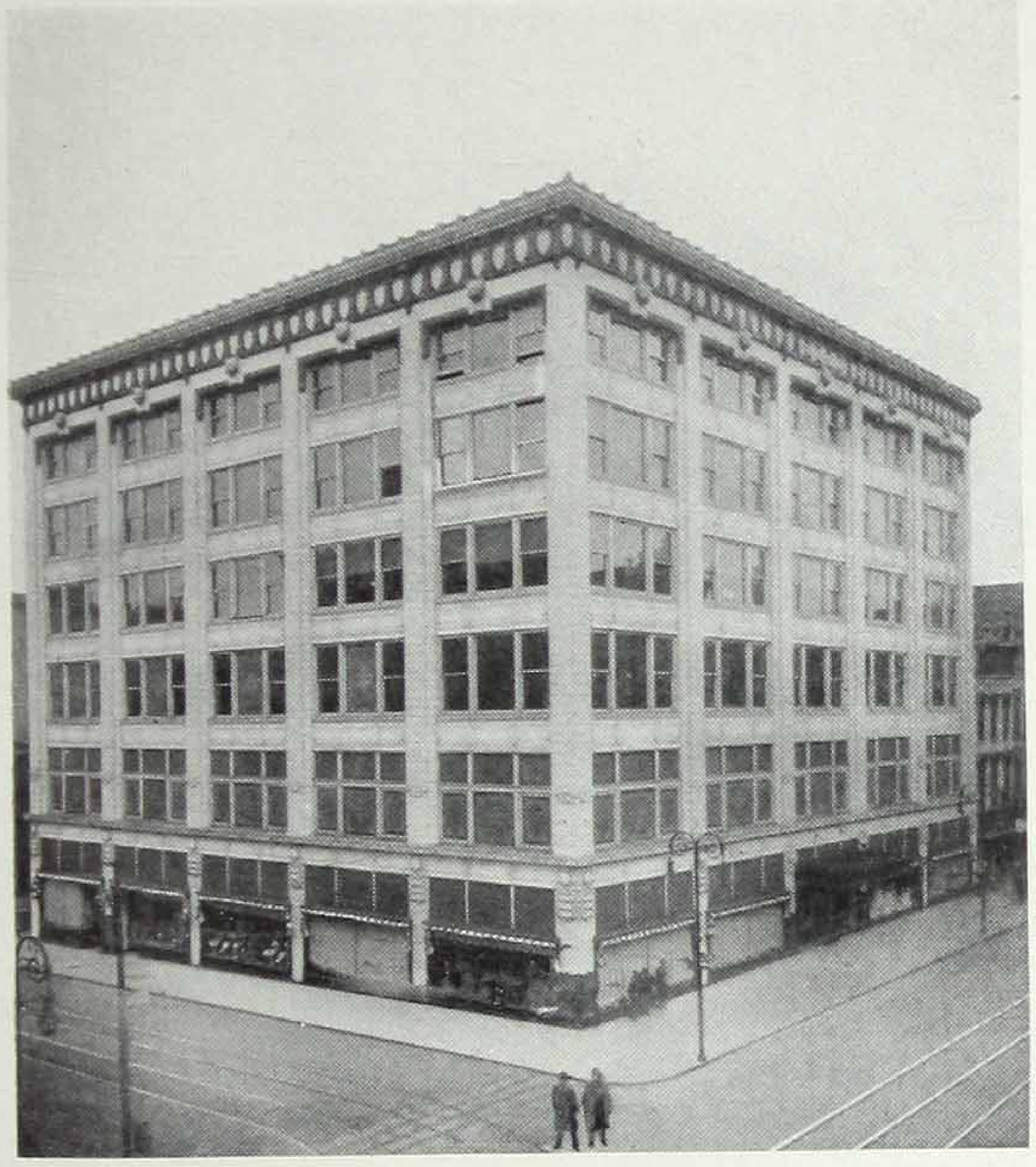


BURKE & JAMES BUILDING, CHICAGO, ILL.

Hill & Woltersdorf
Architects

Wm. W. Lingerfelter
Heating Contractor

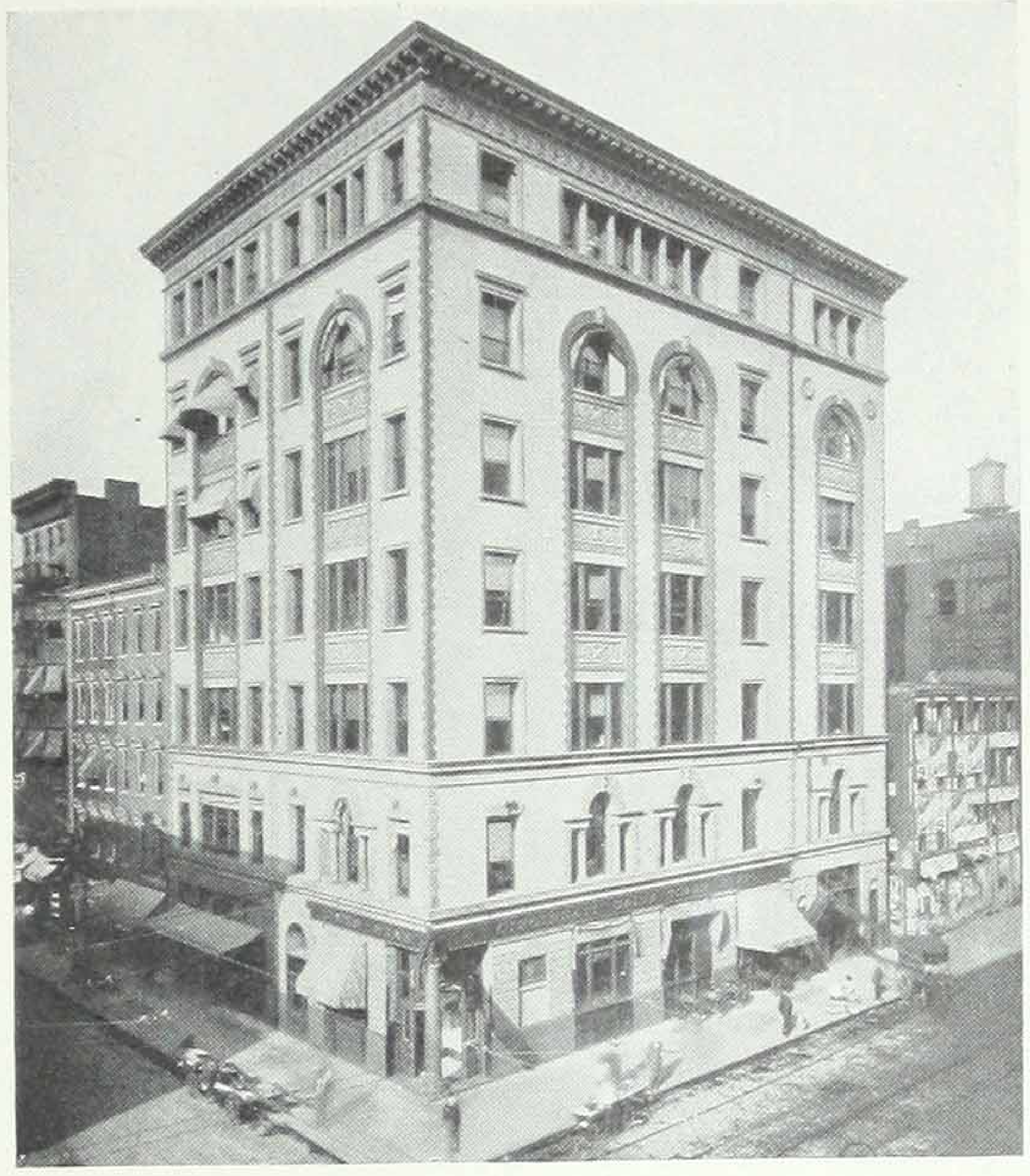
THE MODERN METHOD OF STEAM HEATING



THOMPSON-HUDSON BUILDING, TOLEDO, OHIO

G. S. Mills
Architect

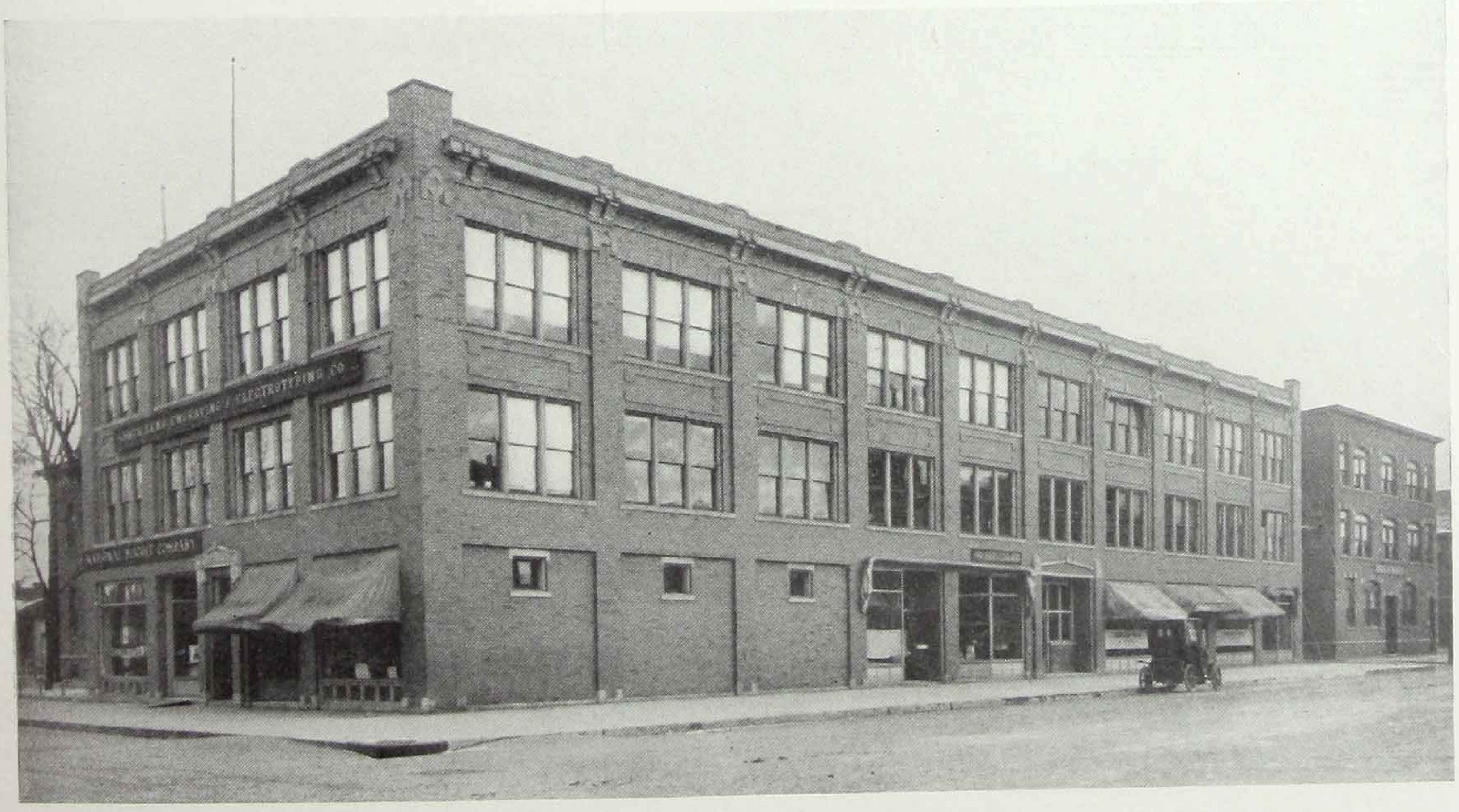
Thomas Kewley & Son
Heating Contractors



CINCINNATI TIMES-STAR BLDG., CINCINNATI, OHIO

S. Hannaford & Son
Architects

M. H. Crane Estate
Heating Contractors



ST. JOE BUILDING, SOUTH BEND, IND.

Freyermuth & Maurer
Architects

Wm. H. Burke
Heating Contractor

DAVIS LIBRARY, PHILLIPS ACADEMY, EXETER, N. H.

Cram, Goodhue & Ferguson
Architects

Walworth, English & Flett
Heating Contractors

MUNICIPAL BUILDING, ABERDEEN, S. D.

Geo. F. Fossum
Architect

Aberdeen Plumbing & Hardware Co.
Heating Contractors

STEAM HEATING THE PUBLIC BUILDING

RECREATION PIER, BALTIMORE, MD.

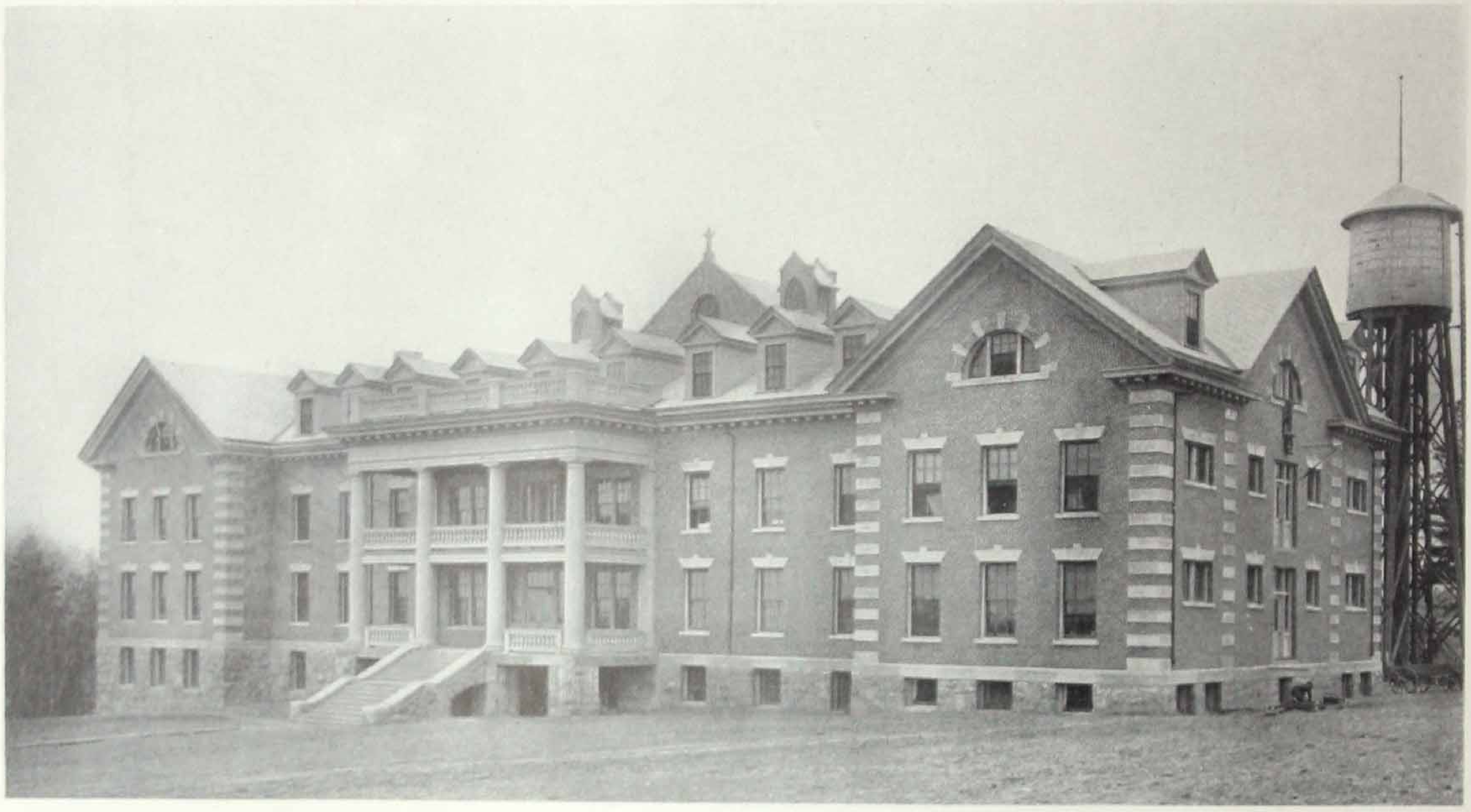
Theodore W. Pietsch
Architect

Riggs, Distler & Stringer, Inc.
Heating Contractors

FIRE DEPARTMENT HEADQUARTERS, INDIANAPOLIS, IND.

D. A. Bohlen
Architect

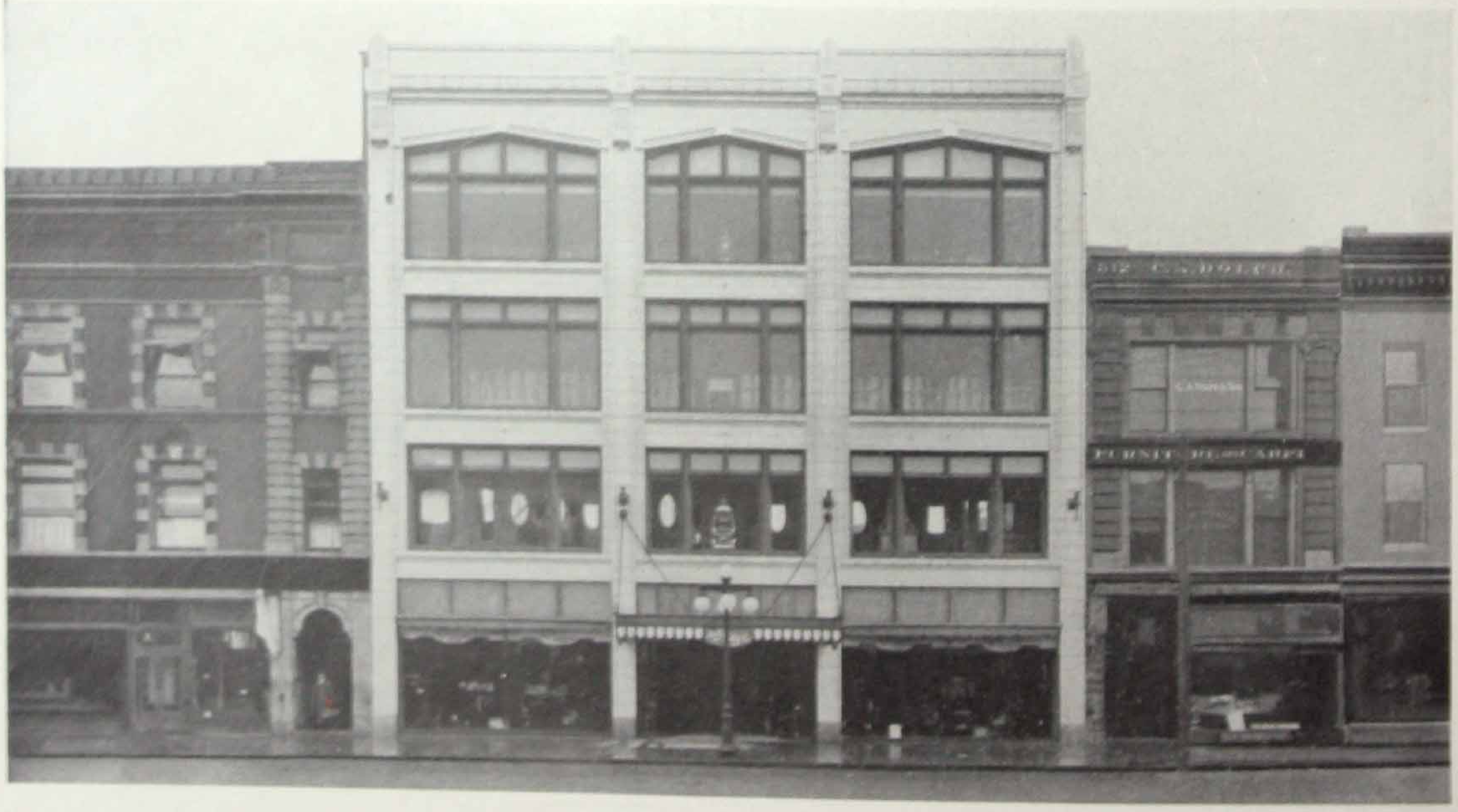
Hayes Bros.
Heating Contractors



ST. JAMES ORPHANAGE, DULUTH, MINN.

Lignell & Lebeck
Architects

Stack Bros.
Heating Contractors

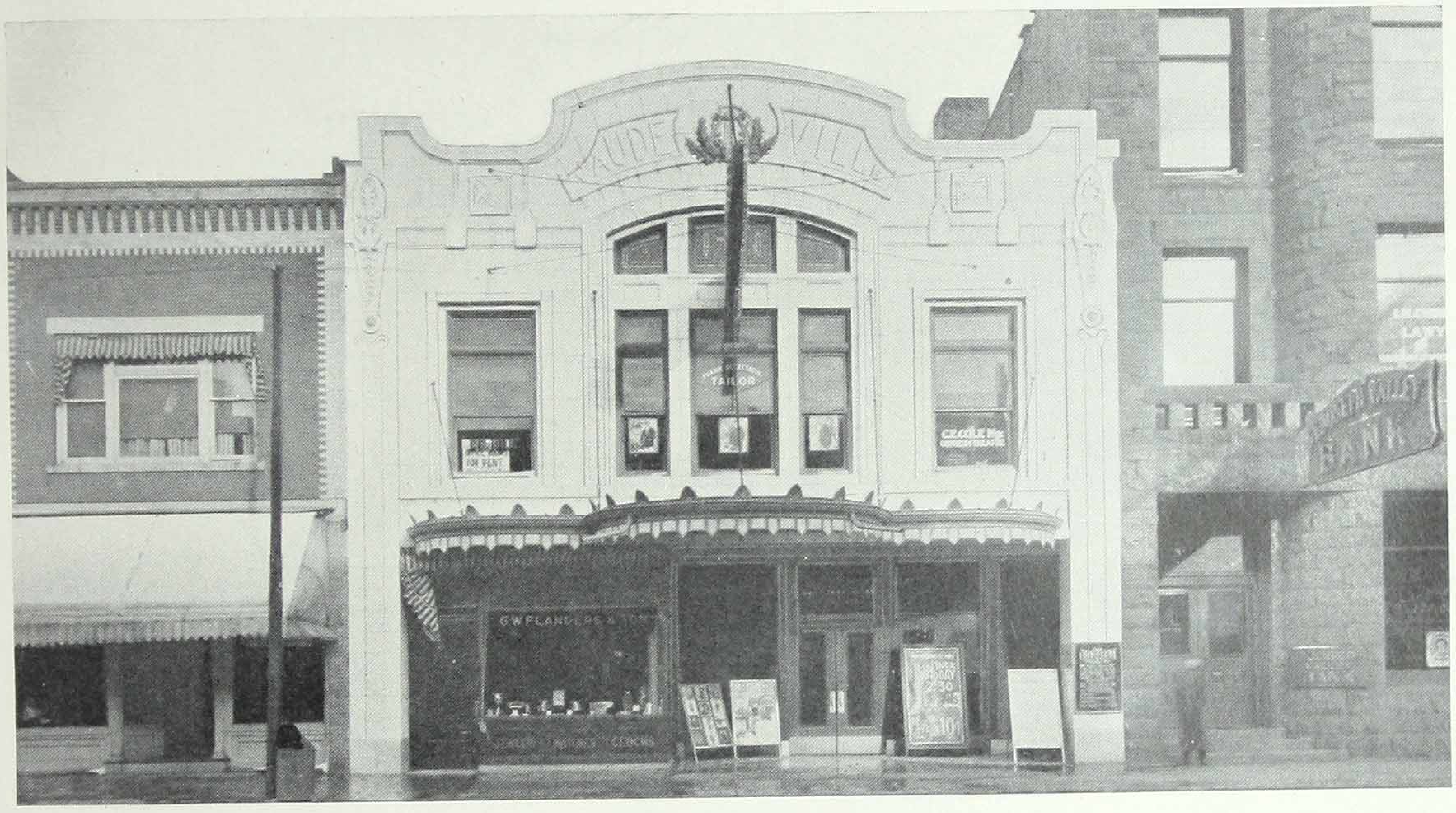


RIES' STORE, SOUTH BEND, IND.

Freyermuth & Maurer
Architects

J. E. Haney
Heating Contractor

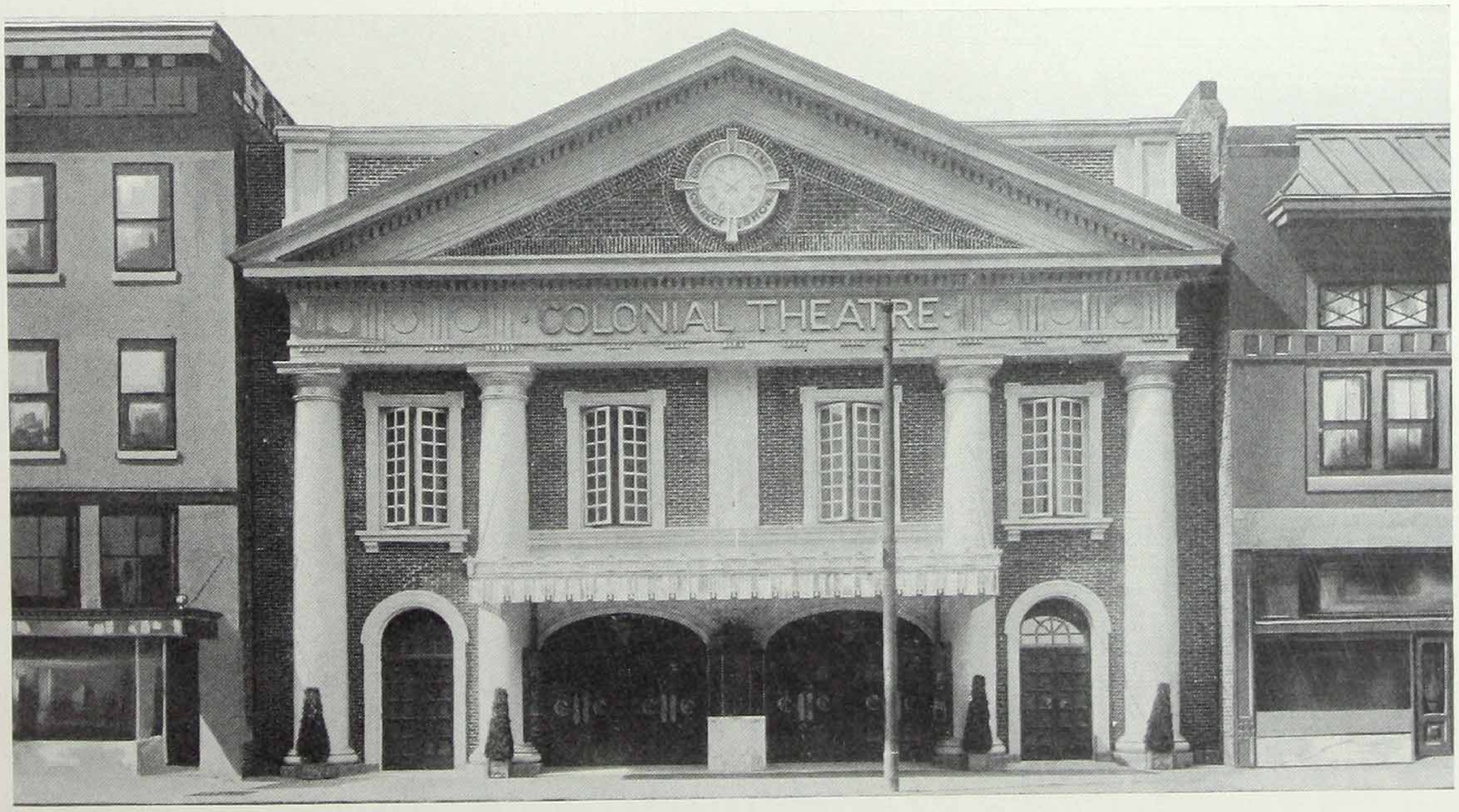
THE MODERN METHOD OF STEAM HEATING



ORPHEUM THEATRE, ELKHART, IND.

Freyermuth & Maurer
Architects

W. W. Sibley Co.
Heating Contractors

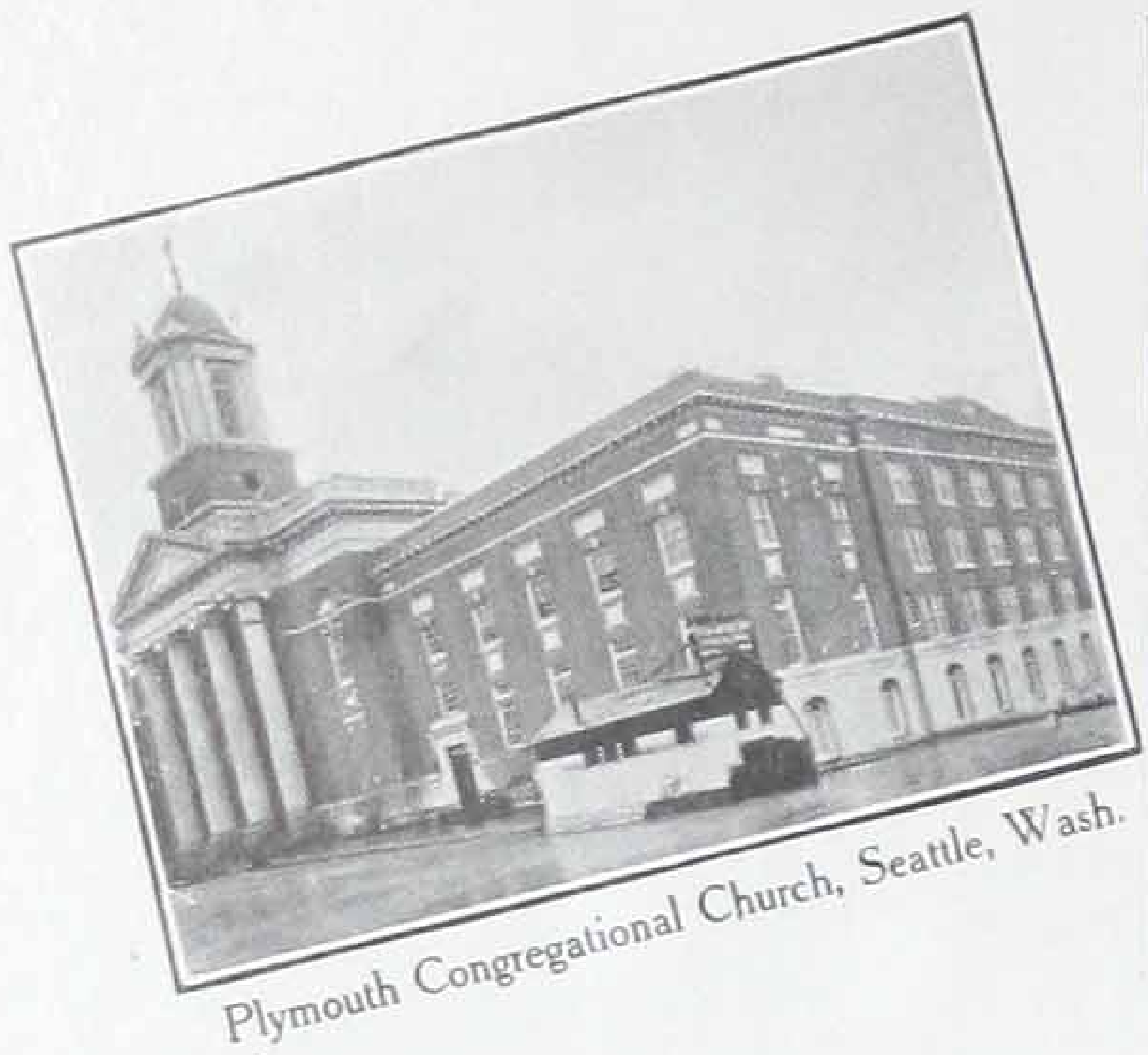


COLONIAL THEATRE, SEATTLE, WASH.

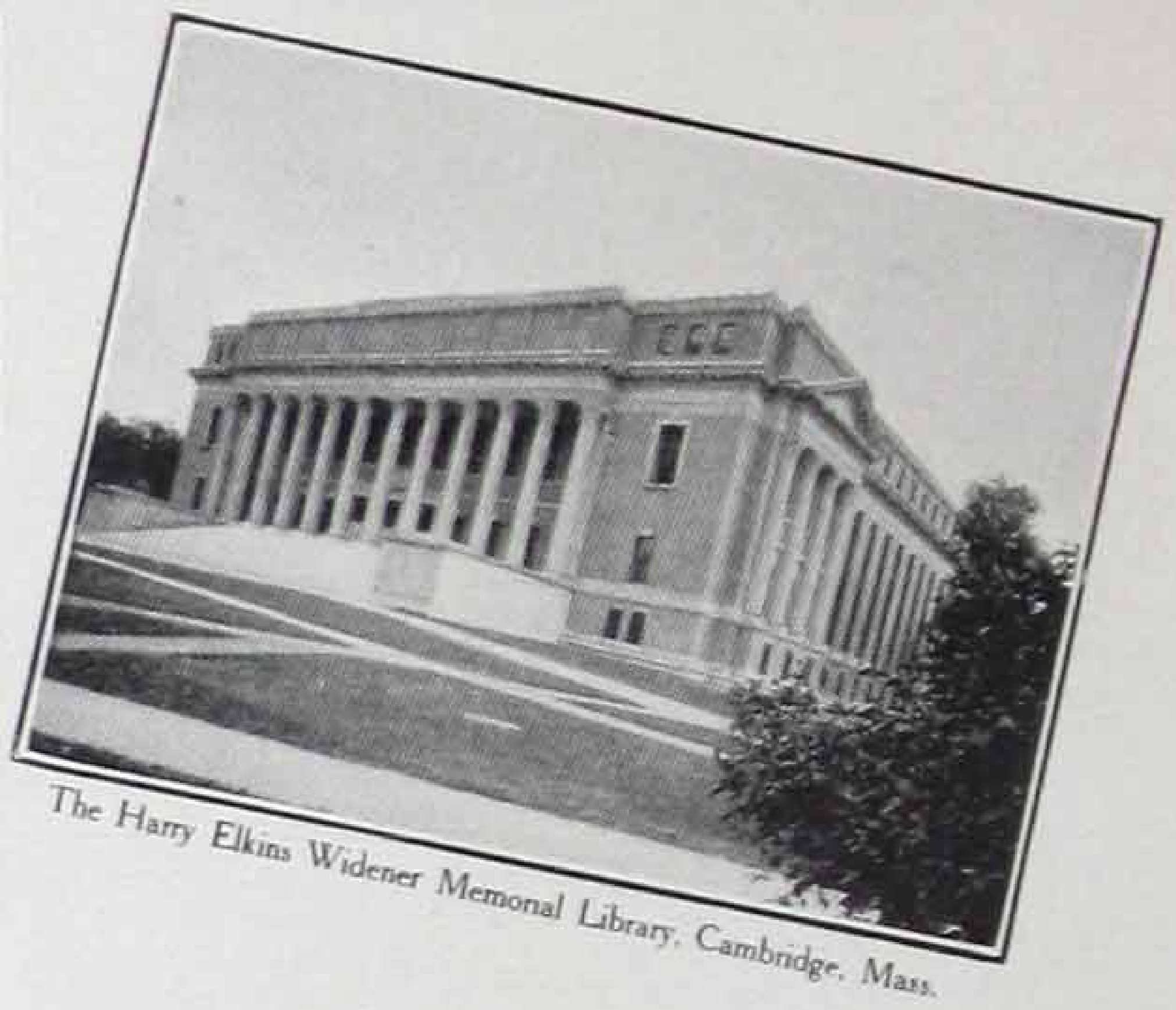
John Creutzer
Architect

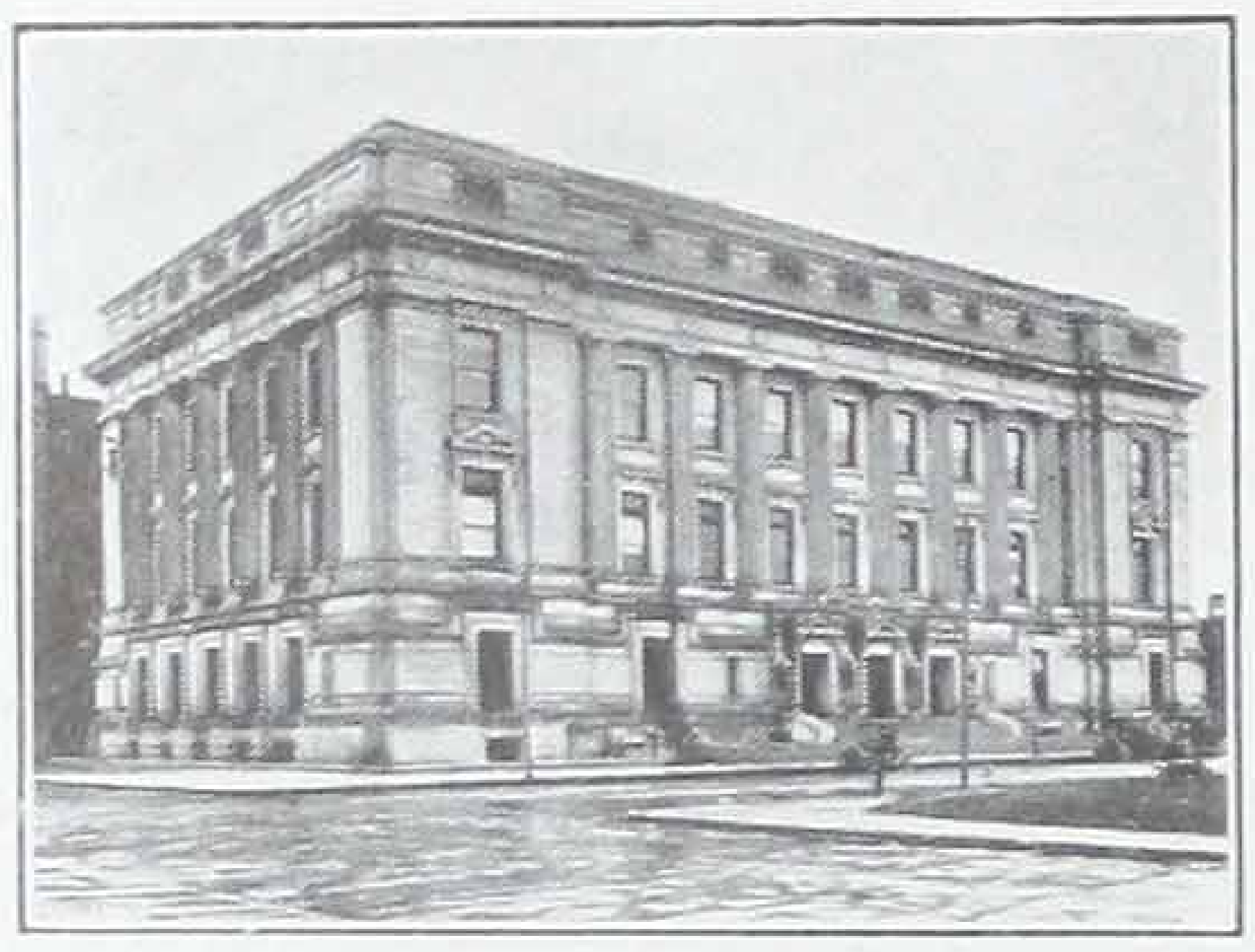
West Coast Heating Co.
Heating Contractors

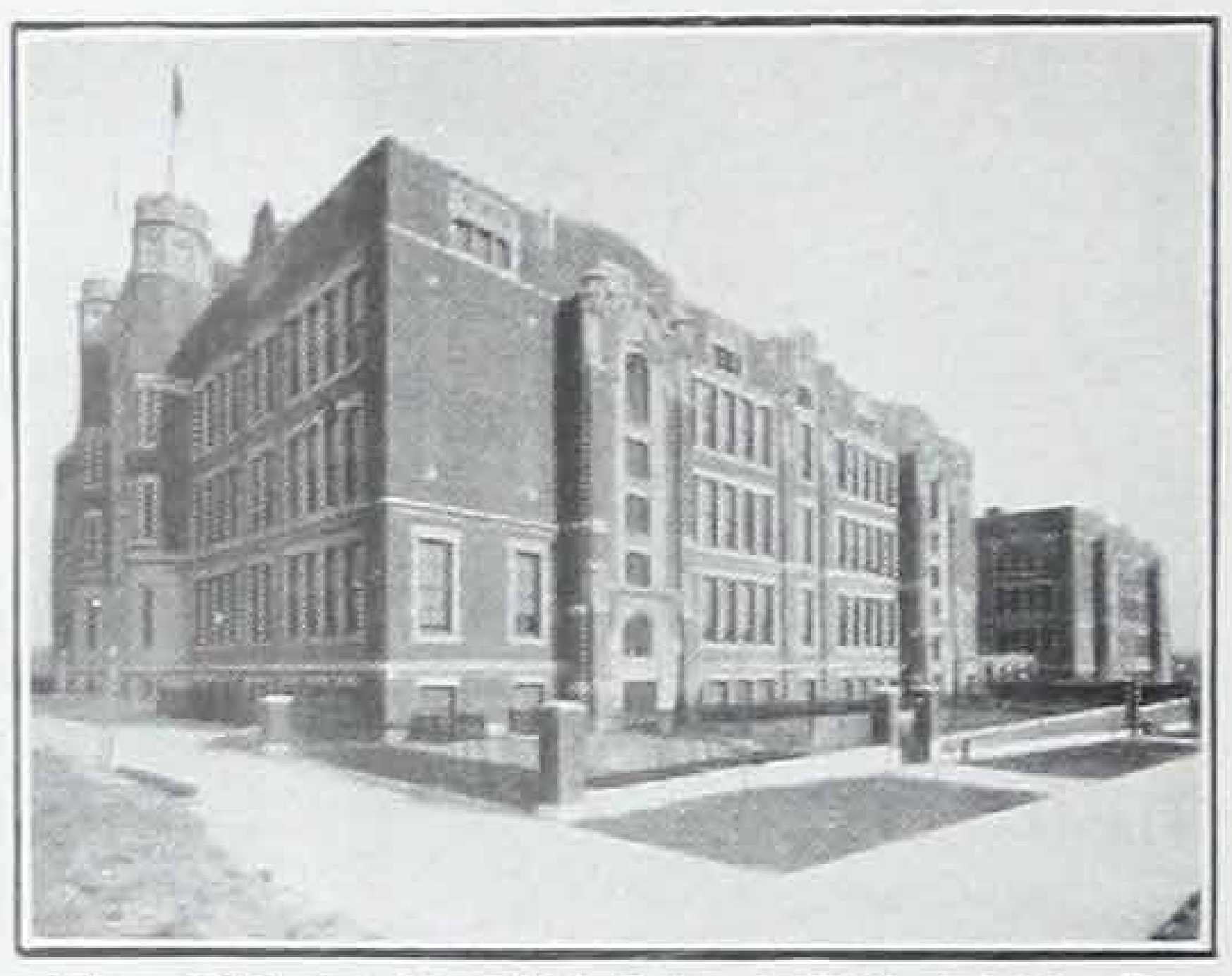
WEBSTER AIR CONDITIONING APPARATUS


Plymouth Congregational Church, Seattle, Wash.

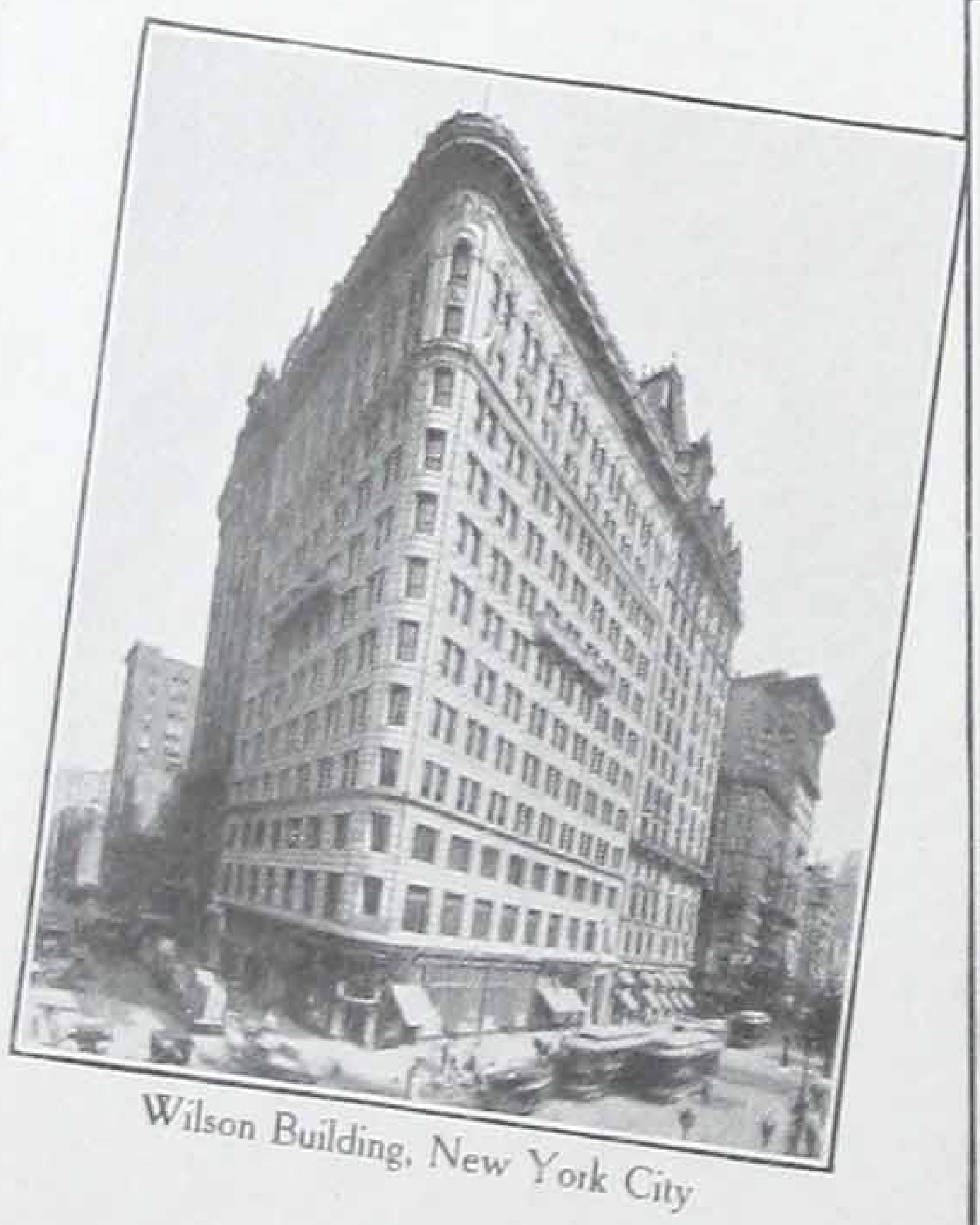
Union Station, Indianapolis, Ind.


The Harry Elkins Widener Memorial Library, Cambridge, Mass.

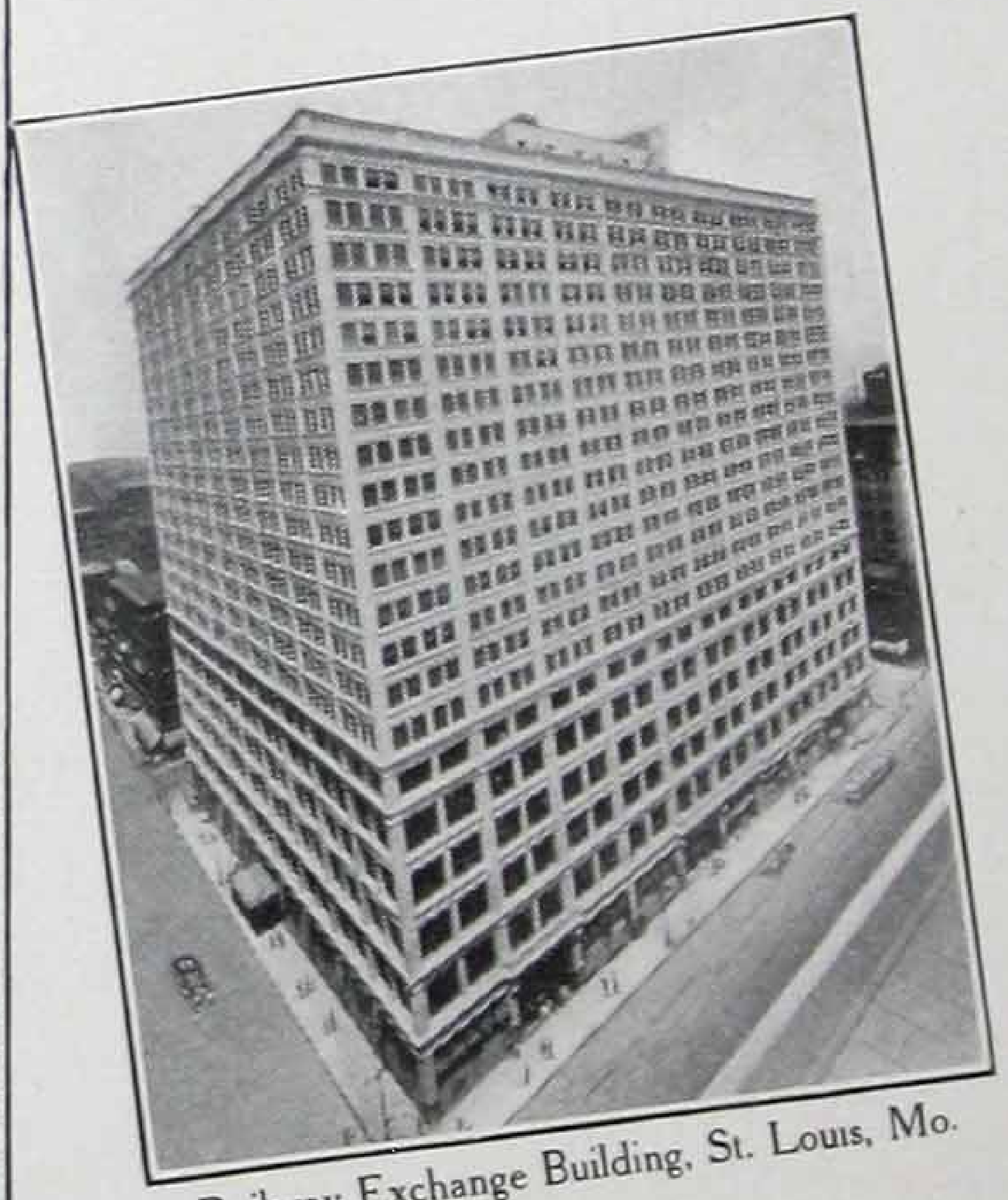

City Hall, Indianapolis, Ind.

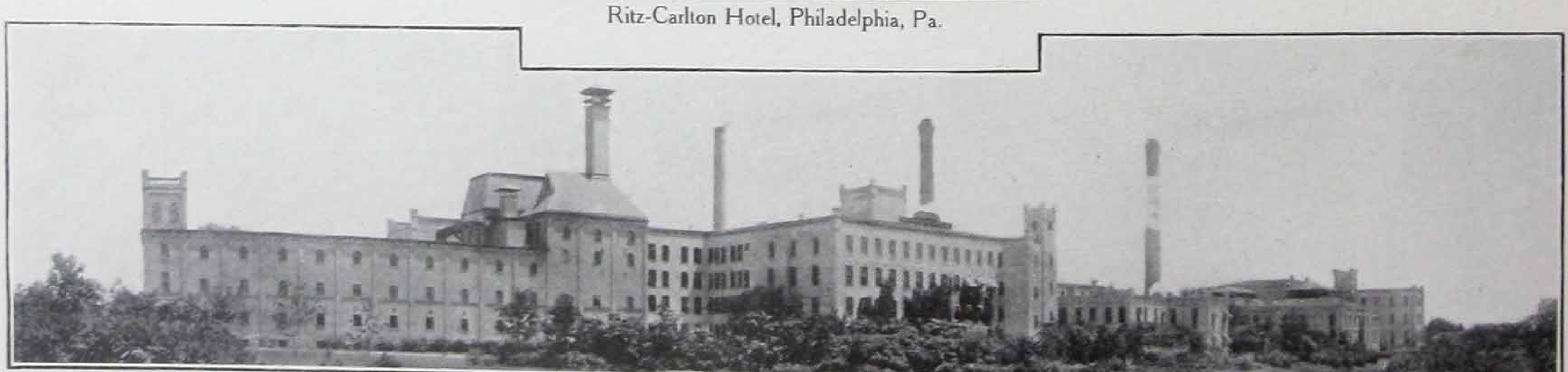

West Philadelphia High School, Philadelphia, Pa

Children's Hospital, Boston, Mass.


Wilson Building, New York City

Ritz-Carlton Hotel, Philadelphia, Pa.


Railway Exchange Building, St. Louis, Mo.


Horlick's Malted Milk Co., Racine, Wis.

THE WEBSTER AIR WASHERS AND AIR CONDITIONING APPARATUS INSTALLED IN THESE VARIOUS TYPES OF BUILDINGS

THE WEBSTER AIR WASHER

A CONTINUOUS supply of pure, fresh and healthful air to all types of buildings in which ventilating systems are concerned is not a luxury nor a fad but a hygienic and economical necessity. In the designing of ventilating systems in the past little or no attention was paid to the quality of the air entering the rooms so long as it was sufficient in quantity and was properly heated. The universal demand to-day for safety in reference to public health and hygiene has brought about a change in these methods, and the installation of an air washer and purifier in a modern ventilating system is now considered a necessity.

For obtaining a continuous supply of pure washed air which upon entering the rooms has a healthful temperature and humidity, The Webster Air Conditioning Apparatus is adequately adapted.

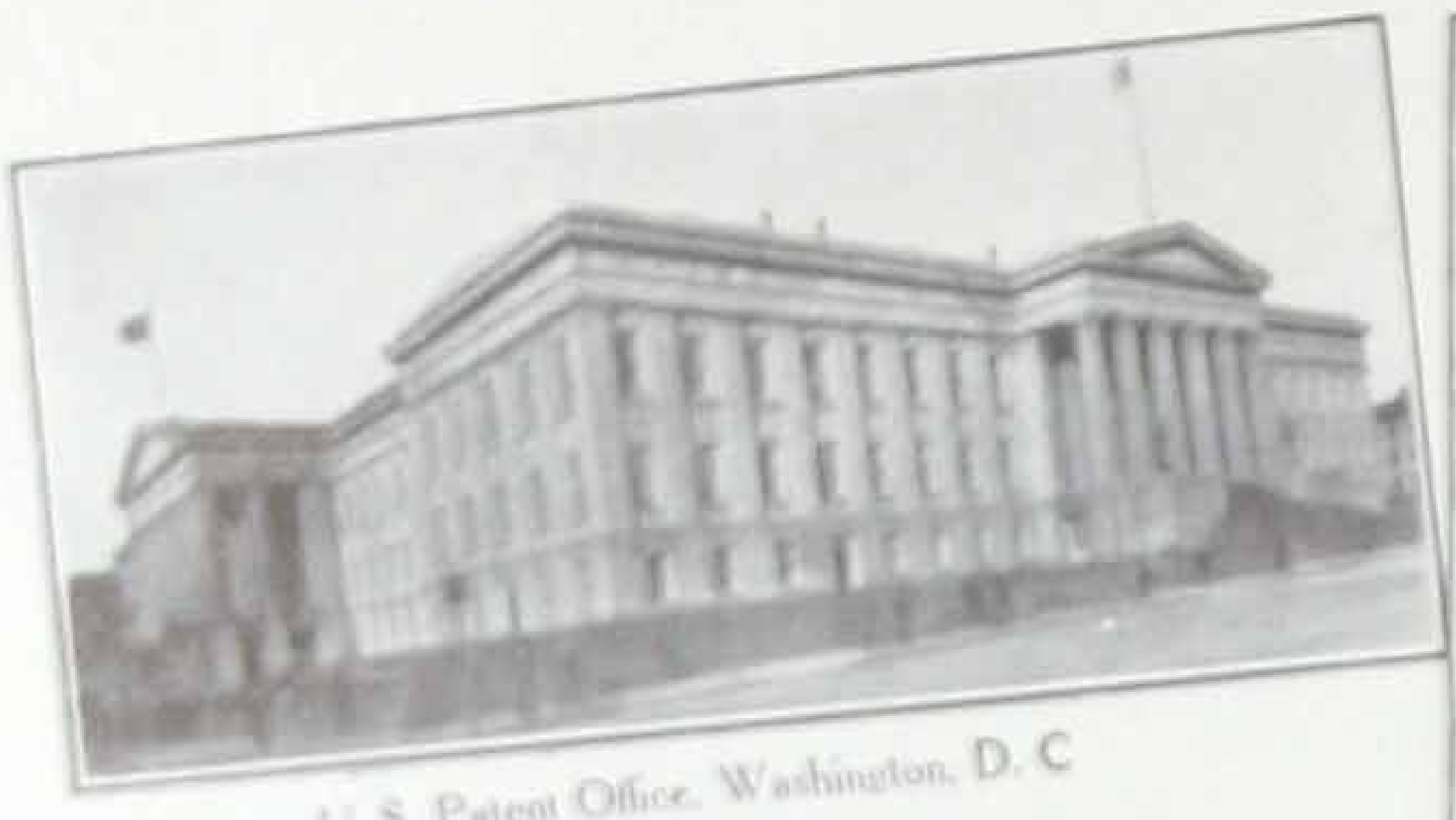
Not only must the air be of the maximum purity obtainable, so far as the absence of noxious gases and odors are concerned, but it must be cleansed of all floating particles harmful to both health and furnishings. An incidental application of this requisite is embodied in air conditioning apparatus installed in connection with ventilating systems for banks, hotels, office buildings, theatres, department stores, churches, etc., in which the furnishings and decorations are costly and subject to deterioration through dust nuisance.

A reduction in labor incident to the caretaking of such establishments is evident, and with a properly designed system a material cooling effect is obtainable during the summer season.

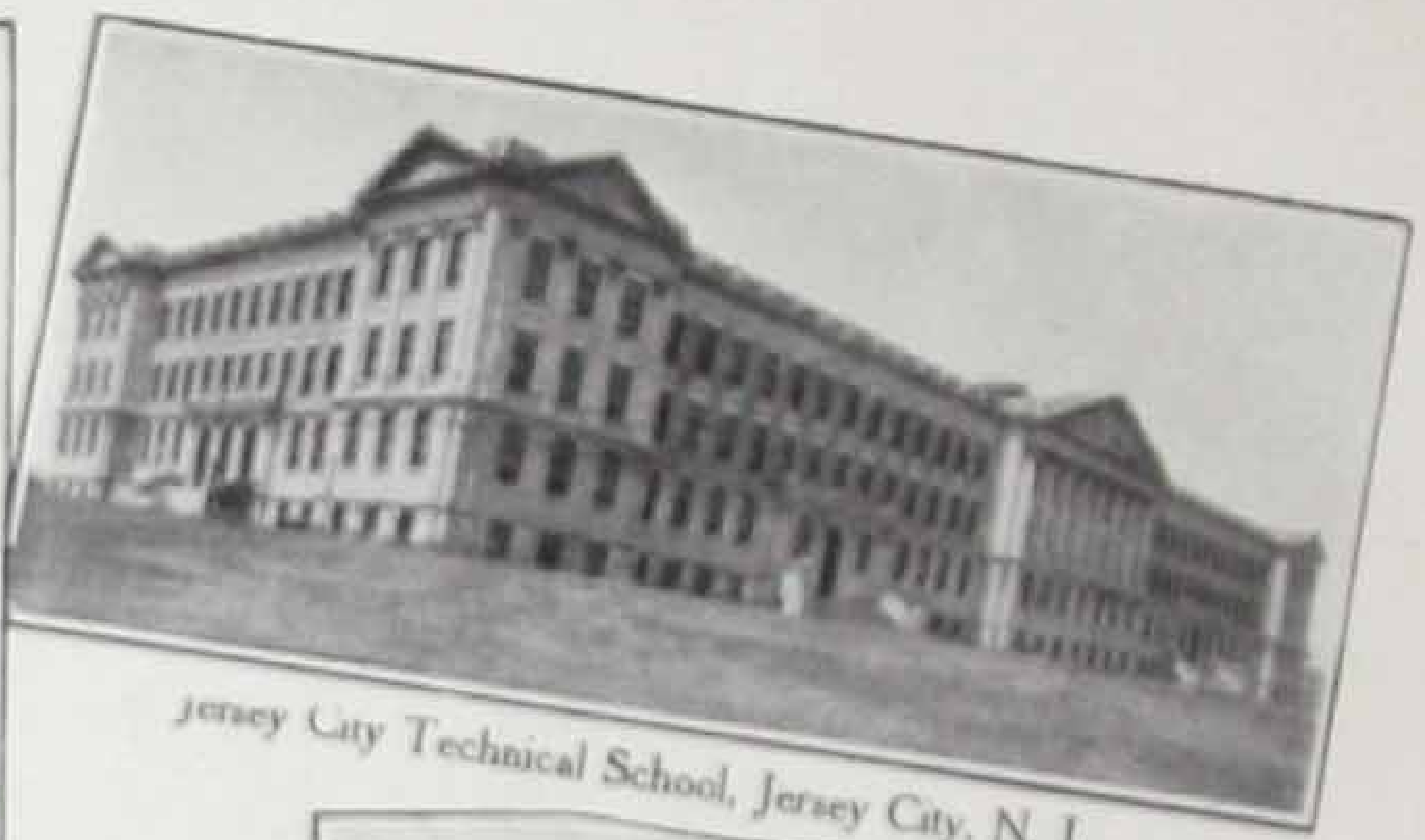
In the schoolhouses the best of sanitary conditions must prevail and are essential to the health and physical welfare of the child. The extreme dryness in the classrooms during the winter months is obviated by the use of a Webster Air Washer in connection with The Webster System of Humidity Control, which maintains at all times the desired humidity.

The field of Air Conditioning Engineering is marvelously broad and varied, affording many opportunities, and the experience of our experts who have made this field their life study, is at your service for the solution of your problems.

THE WEBSTER VACUUM SYSTEM


U. S. Patent Office, Washington, D. C

Municipal Buildings, Springfield, Mass.


Jersey City Technical School, Jersey City, N. J.

St. Louis Cathedral, St. Louis, Mo.

P. A. B. Widener, Residence, Elkins Park, Pa.

U. S. Court House and Post Office, Indianapolis

Y. M. C. A. Central Branch, Phila.

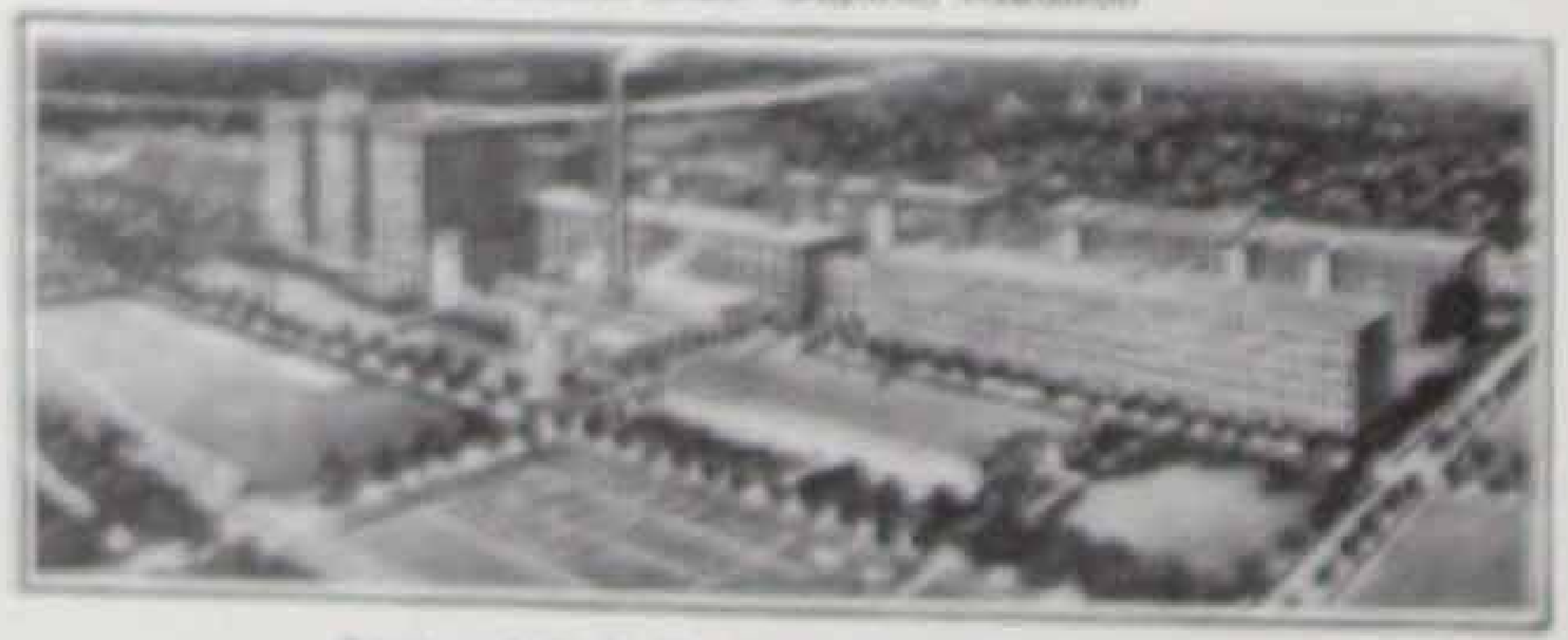
Equitable Building, New York

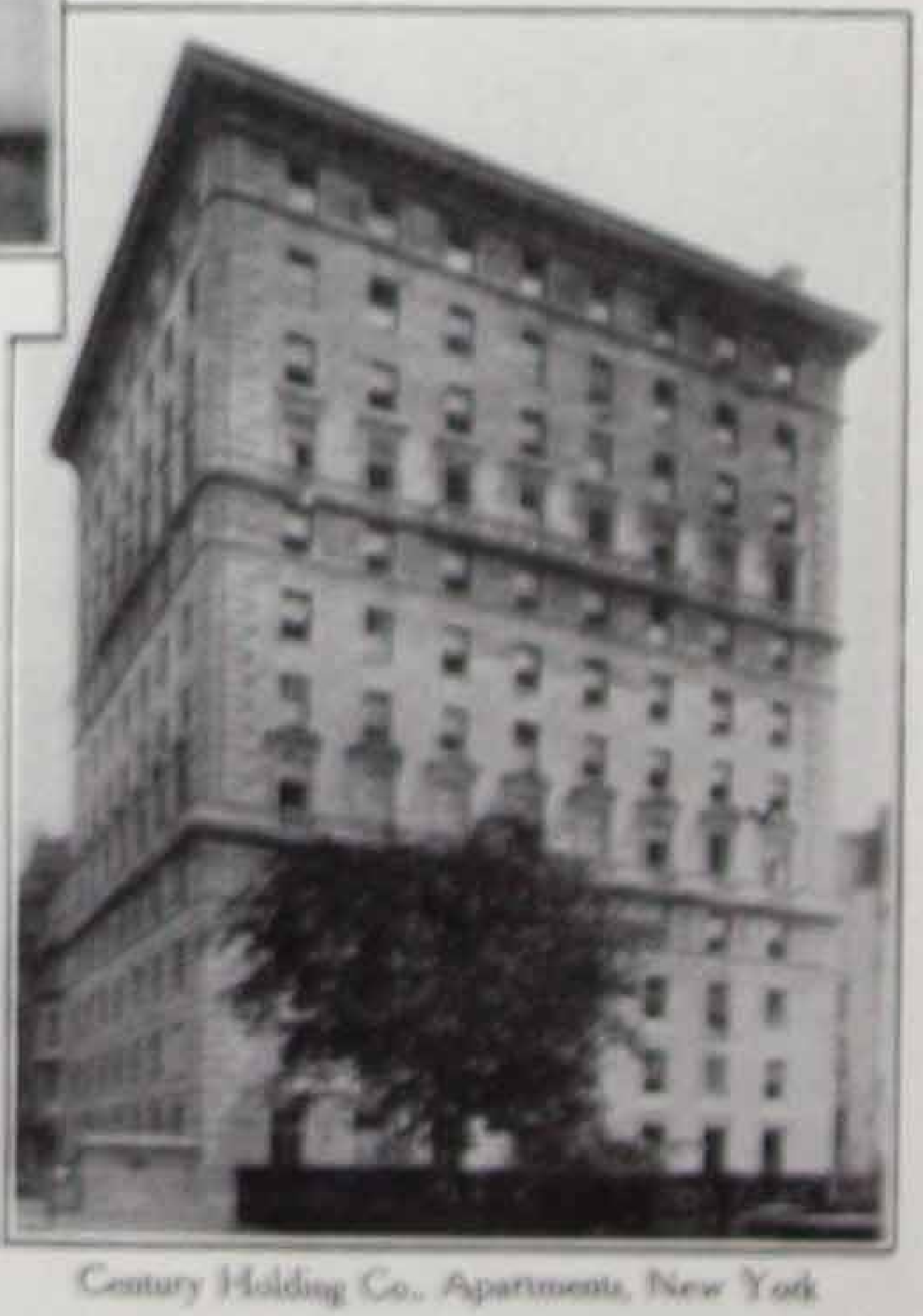
Hamilton Club, Chicago

Great Northern R. R. Station, Minneapolis

McAlpin Hotel, New York

Wisconsin State Capitol, Madison


National Cash Register Co., Dayton, O.


Century Holding Co., Apartments, New York

REPRESENTATIVE TYPES OF BUILDINGS EQUIPPED WITH
THE WEBSTER VACUUM SYSTEM OF STEAM HEATING

THE WEBSTER VACUUM SYSTEM OF STEAM HEATING

THE intent of this catalogue is to describe and illustrate The Webster Modulation System of Steam Heating, which is only one branch of the line designed and manufactured by us.

Almost every building contains features which make it different from all others; local conditions, size, shape or purpose for which it is to be used, vary the type and construction of the heating apparatus best adapted to it.

During our twenty-seven years in this branch of engineering and manufacture we have furnished apparatus for over 7,000 installations, and in these we have solved the problems which enter into the science of heating.

We are in a position to assist the Architect, Engineer or Contractor in the selection of those devices best adapted to the particular purpose, and have a line of appliances which make possible the application of just the apparatus required for each building.

This chapter does not relate to The Webster Modulation System, but treats upon other methods of applying our devices known as The Webster Vacuum System, The Webster Modulation-Vacuum System, The Webster Hylo System, etc., which subjects are treated upon in separate literature.

There are many buildings where local conditions are such that mechanical means for removing the air and water of condensation from the heating system is necessary; in such cases our Engineering Department will suggest the design of a system which will overcome all physical difficulties and operate in an economical and satisfactory manner.

There are times when it is desirable to run the boiler at a high enough steam pressure to operate a vacuum pump; such pumps being frequently proportioned to operate at 10 pounds pressure, while others have been furnished which give excellent service at still lower boiler pressures.

Air and condensation may be discharged by the vacuum pump through a Webster Hydro-Pneumatic Tank forcing the water into the boiler without the need of a special feed pump; all air removed from the radiation into the return through The Webster Water and Air Relief Traps being vented to the atmosphere from The Webster Hydro-Pneumatic Tank.

The design may include means for maintaining a sufficient pressure on the boiler to operate the pump and also to reduce the steam pressure so as to maintain only a few ounces in the heating system.

Where power is developed for engines or house pump service, the vacuum pump would be designed to operate at a high boiler pressure, and where a Feed Water Heater is installed it would be used as a receiver for the condensation returning from the system, taking advantage of all heat in the water or exhaust steam.

In the design of The Webster Vacuum System of Steam Heating the piping is so arranged as to utilize the exhaust steam from engines and pumps, passing it through a Webster Oil Separator on its way to the heating system or Feed Water Heater.

In many cases this exhaust steam would be sufficient for the purpose, and it would only be necessary to admit live steam into the low-pressure main through a reducing valve when the demand for steam was greater than the supply of exhaust.

Such an installation of The Webster Vacuum System, utilizing the by-product and operating at extremely low pressure without appreciable back pressure on the engines, represents a large profit on the investment.

The Webster Modulation Valve in its various forms, referred to in another part of this catalogue, is adaptable for use with The Webster Vacuum System where a vacuum pump is the means of maintaining a circulation of steam.

The operation of a vacuum pump on the return lines of a steam heating apparatus makes the removal of air and water and the circulation of steam an absolute certainty, and when exhaust steam is available it may be used for heating to its fullest extent without reducing the efficiency of the engine.

When a back-pressure system is changed to The Webster Vacuum System, an increase in engine efficiency may be effected.

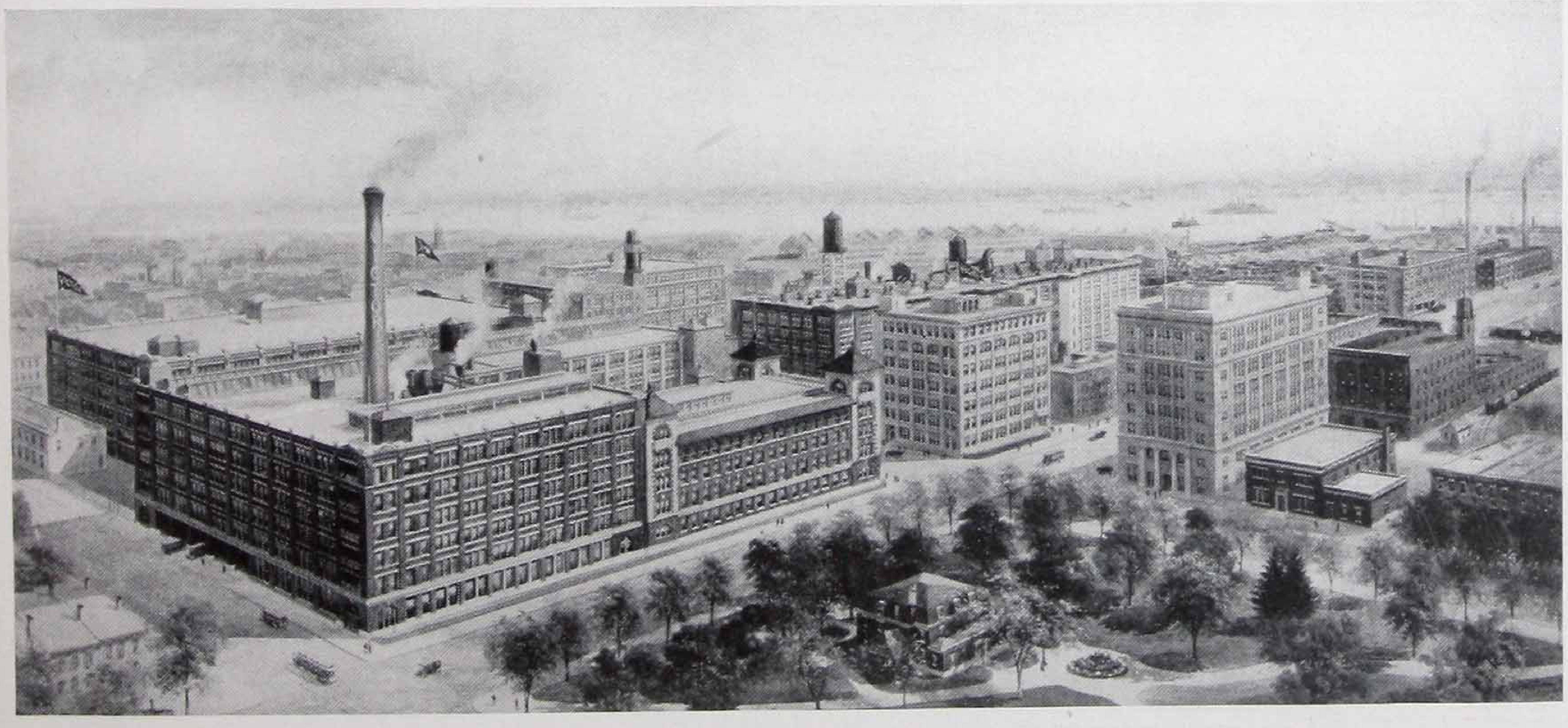
THE MODERN METHOD OF STEAM HEATING

When certain portions of an apparatus are too low to be relieved of condensation by gravity conditions, a circulation may be established and maintained with The Webster Vacuum System, as the vacuum pump establishes such a differential in pressure between the return and the supply that water of condensation may be raised to a higher level.

In plants or installations where a number of buildings form a group, heated from a central power plant, the design is purely one of engineering; steam may be circulated several thousand feet distant, and all condensation returned to the boilers by the proper application of The Webster System.

In such plants we recommend what is termed The Webster Hylo System, by means of which the vacuum in branch lines may be controlled according to local requirements, while a higher vacuum is maintained on the main trunk line return.

Being heating specialists, we are prepared to investigate conditions where difficulty has been experienced in securing satisfactory and economical heating, and where new buildings are projected we will co-operate with those having the design in charge to the end that work installed, according to plans and specifications for The Webster Vacuum System, will be in accordance with the most modern practice of steam heating.



PLANT OF THE VICTOR TALKING MACHINE COMPANY, CAMDEN, N. J.
Equipped with The Webster Appliances, including The Webster Vacuum System of Steam Heating, The Webster Modulation-Vacuum System of Steam Heating, The Webster Hylo System of Steam Heating, The Webster Feed Water Heaters and The Webster Air Washers

THE WEBSTER APPLIANCES

THE WEBSTER APPLIANCES

IT is because of the wide variety of apparatus from which selection is made to meet each individual condition, plus the "know how" of twenty-seven years' experience, that we are able to successfully meet the problems and conditions that are encountered. The following list shows the diversified line of Webster Appliances for power and heating plants:

Automatic Water and Air Relief Traps
  for:
    Coils, Radiators, Blast Coils,
    Dripping Mains, Dripping Risers,
    Hot Water Generators,
    Cooking Apparatus and Dryers,
    Manufacturing Apparatus.
Air Separating Tanks.
Air Separating Fittings.
Atmospheric Relief Valves.

Boiler Feeders.

Conserving Valves.

Damper Regulators.
Dirt Strainers.

Exhaust Heads.
Expansion Joints.

Feed Water Heaters
    In Standard and Special Design.
Feed Water Meters.

Gauges and Gauge Boards.

High-Pressure Steam Traps.
Hylo Apparatus:
    Controllers, Traps, Gauges.
Hydro-Pneumatic Tanks.

Lift Fittings.

Low-Pressure Steam Traps.

Modulation Control Valves:
    Standard, Special, Extended Stem
    Universal Joint, Chain Control.
Modulation Vent Traps.

Oil Separators (For Heating Systems).
Oil Traps.

Preference Tees.

Receiving Tanks.

Steam Separators.
Suction Strainers.
Sight Glasses.

Thermostatic Traps.

Vacuum Oil Separators.
Vacuum Breakers.
Vacuum Pumps:
    High or Low Pressure Steam
    or Power Types.
Vacuum Governors.
Vent Valves.

Water Line Governors.

Air Conditioning Apparatus:
    Cleansing—Humidifying, Cooling—
    Dehumidifying,
    Reclamation of Material.

The Webster Appliances are the best that can be produced for the purpose. The Webster Service insures their proper application.

"The Webster Guarantee is your Insurance Policy"